Maple Orchard

Your Apple II and Macintosh Resource

LOGIC
An Apple User Group

October/November 1989
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Build Your Own MIDI Adapter for the IIgs and Macintosh

Mac & IIgs to Hayes Modem cable

Special Modem Offer for LOGIC Members

DataLink 2400 and Practical Modem 2400 Reviewed

The Joy of Making Telephone Calls with your Computer

GEOS for the Apple II

Is EDUCORP Stealing from Software Developers?

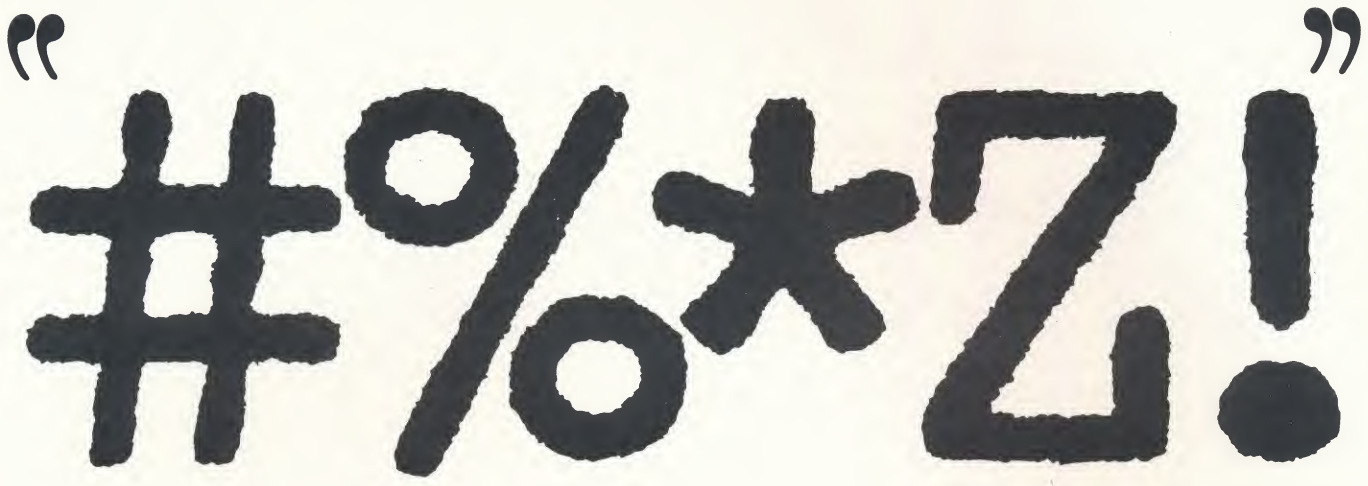
Maple Orchard Author's CheckList

Computers in Education

Macintosh Prices and Upgrade Paths

Apple's ImageWriter LQ Printer

The Human Interface



This shouldn't be the first computer language you learn.

Shopping for a personal computer, even an Apple, can be a very frustrating enterprise.

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In a language that you like to speak.

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Electronic submissions should be uploaded to the Maple Orchard Round Table on the LOGIC BBS.

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From the Editor

by Jim Ferr

Welcome to another issue of Maple Orchard. This issue holds many exciting articles, including Stephen Brown's MIDI adapter for both the Apple IIgs and the Mac. As well, there is an article from Ken Cohen introducing telecommunications, and a special offer (for LOGIC members only) on two excellent modems, the Practical Peripherals PM2400SA and the Applied Engineering DataLink 2400. (See my reviews.) If you've ever considered getting into telecommunications, now's a good time!

This issue also includes our first Author CheckList, designed to explain what we would like to see in articles written for Maple Orchard. Almost 100 per cent of the articles submitted to Maple Orchard are uploaded via the LOGIC BBS. If you're an out-of-town member, the BBS is the easy way to submit your article. Be sure to ask Sid Stulberg, our General Manager, for two disks from our Disk Library for each of your articles published. If you don't make it to meetings, Sid will mail your disks to you.

LOGIC will be producing a special Christmas issue of Maple Orchard this year. Publication will resume with the January/February issue. Deadline for the Christmas issue is October 31st. The deadline for the January/Febrary issue is November 30th. If you plan to write something, by all means bounce your ideas off myself or one of the editors. We'll provide additional ideas and encouragement.

As always, readers are invited to comment, by letter or on the BBS.

Report from the President

(to the Membership at the Annual General Meeting)

by Jim Low

This past year has been an exciting and busy time for LOGIC. A number of changes took place: Although Bill and Brenda MacKay resigned from their positions with LOGIC before the last Annual Meeting, the effects of their departure were not felt until later. They had capably seen to the business affairs of the club for many years. While things worked well in the past with informal arrangements, it became necessary for the Directors to properly define what the administrative duties are, and what should be voluntary work. During the period from December to May, LOGIC carried on all of the Administrative duties on a voluntary, unpaid basis. This resulted in considerable work for Directors. However, it soon became apparent that certain areas of administration needed to be centralized.

LOGIC's size is awkward. We are too small to be able to afford to pay for staff, yet we are too large to properly administer the club without the dedication of a person who can spend considerable time on its business. As a result, we had to compromise. The Directors decided to create the position of General Manager and later pay a nominal fee for his duties. This sum is much less than what market value could properly demand, and requires a dedicated member to take on this duty. Fortunately for LOGIC, Sid Stulberg, who previously spent considerable time on club business without pay, agreed to take this on.

Jim Ferr, who became editor of Maple Orchard, maintained and improved it's quality. Our publication is now being issued regularly every second month.

The LOGIC BBS, under the direction of Geoff Gaherty, continues to improve and grow. The big change here was the addition of a second line. The complaints about getting constant busy signals have ended.

We have completed a year at our new meeting location. This location is the result of requests of members made at a meeting last year. It is centrally located, and easily accessible both by public transit and car.

Our Compute-In in February was a great success. For the first time, LOGIC had press coverage on TV and in a newspaper. LOGIC also participated in two Computer Fests during the past year.

We continue with our two regular monthly meetings - one for the Macintosh and another for the Apple II users. The several Special Interest Groups also meet at regular intervals.

These areas of LOGIC are the most visible to members, but there are other areas less visible but equally important:

- The members who volunteer to be on the "Help List" receive many calls and offer assistance to members with computing problems. More than once I heard members say "solving that one problem more than paid for my membership fee."

- The SIG meetings are important gatherings of people with particular interests and problems. It is a time to learn about a specific thing, to get to know each other better, and to share questions and answers.

- There are many committees and volunteers who provide service to members, such as organizing meetings, helping with Maple Orchard Mailings, and disk creation, duplicating, and mailings.

- A lot goes on behind the scenes that is often not realized. For example, members have complained about the poor quality of our projector. The Directors have given the projector replacement project high priority for a year. This project has been frustrating, as we must find something that works with various Macintosh and Apple II computers, is of good quality, and at a price LOGIC can afford. It is such a major capital expenditure, that we cannot afford to make a mistake, and must proceed with care. But we have progressed to the point where it appears likely LOGIC will have a new projector within a few months.

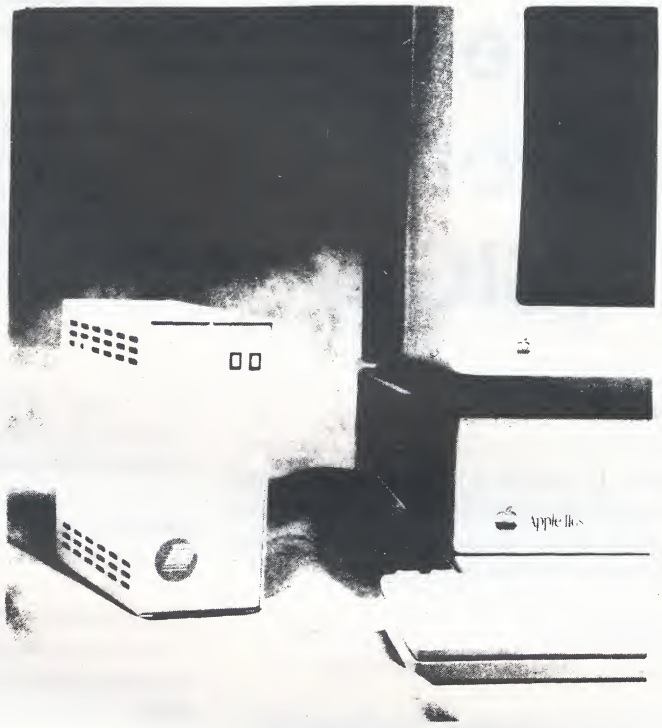
LOGIC is now a decade old and a mature group. Founded by a few early

continues on page 7

Announcing the CT-20 and CT-40 Hard Disk Drive from Chinook Technology & Canadian Computer Outlet Summer Blowout

Features

- 20 & 40 Megabyte Formatted Capacity
- SCSI Technology for High Speed Performance
- Formatted with ProDos and Ready to Use
- Utility Software for Data Backups and Organizing Your Hard Disk
- Daisy Chain SCSI Peripherals
- Quiet System
- Designed to Complement for Use with the Macintosh (Driver Software not supplied)
- Head Parking Utility
- Two Year Limited Warranty on Parts and Labor
- CT-20 $799
  CT-20C $869
  CT-40 $999 wCard



Technical Specifications

Hardware Specifications

Formatted Capacity:	20 Megabytes & 40 Megabytes	
Seek Time		
Track-Track:	20 msec	15 msec
Average:	65 msec	28 msec
Maximum:	150 msec	95 msec
Rotational Speed:	3600 RPM	3000 RPM
Disks:	2	
Heads:	4	
Recording Code:	MFM	
SCSI Interface		
Data Transfer Rate		
Peak:	1.5MB/s	
Sustainable:	< 625 KB/s (interleave dependent)	
Logical Block Size:	512 bytes	
Signal Interface:	Single-ended, 25pin, shielded	
Selection/Reselection:	Yes	
Terminator Power:	Supplied by drive	
Error Correction:	32 bit Error Correction Code with repositioning and retries	
Compatibility:	Apple IIe, Apple IIgs, LASER 128, LASER 128 EX	

Software Characteristics

For the Apple IIgs:	Apple IIgs system software
For the Apple IIe:	
& LASER Computers	**ProDOS 8, basic system, system utilities**

All drives come formatted and with software installed, ready to run on your computer.

Operating system compatibility:	ProDos 8/16 non-copy protected programs.

Physical Characteristics

Dimensions	
Height:	7"
Width:	3"
Length:	8 5/8"
Weight:	<5 lbs
Environment	
Operating Temperature:	5° C to 43° C(41° F to 110° F)
Storage temperature:	-40° C to 60° C(-40° F to 140 °F)
Relative Humidity:	8% to 80% non-condensing
Shock	
Operating:	3G's(Y Axis) 7 G's(X and Z Axis)
Non-Operating:	50 G's
Power Requirements	
Voltage:	90-130VAC, 50-60Hz
Current:	0.30 amps max (spin-up) 0.15 amps typical

We have Zip Chips and Transwarp IIgs (7 mHz) IN STOCK. Please call for pricing.
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Special Interest Groups (SIGs)

If you have a special interest, then one of LOGIC's SIGs may be for you. Here is a list of the current SIGs and their chairpersons. If you have a special interest not covered by one of these then perhaps you would like to start a new SIG. If so, please let one of the Directors know.

Appleworks	**Ian Harvie 266-6647**
Desktop Publishing	**John Brennan 731-7193**
Telecommunications	**Don Epstein 881-0532**
The Apple IIgs	**Blair Angus 281-2920**
Hardware	**Tom Klein 783-4952**

The Appleworks SIG will resume its regular meetings on the 2nd Thursday of each month. September's meeting will be on Thursday the 14th starting at 7:30 p.m. Meetings are held at Ionview Public school in Scarborough; the school is on Ionview Rd. which runs north from Eglinton midway between Birchmount & Kennedy.

Ian is expecting delivery (no guarantees) of Appleworks 3.0 and updates to all the TimeOut accessories so that they may be used with the new version of Appleworks. As Logic's official "Beagle Buddy", Ian will provide free updates to registered TimeOut owners at the AW SIG meeting: just bring your original disk for the free update. If the updates don't arrive, all is not lost: Ian will demo TimeOut "Reportwriter."

All are welcome.

LOGIC Help List

LOGIC maintains a listing of members who are willing to help other members with hardware/software questions. Please observe the following rules when calling a LOGIC Helper:

1. Phone during the evening hours, (7-9 pm) unless otherwise specified.
2. You must be a LOGIC member (and don't be offended if you're asked!).
3. Remember that they are volunteers. At worst, the advice is worth what it costs you. At best, it can more than make your membership worthwhile.

More volunteers are needed NOW. If you have a particular interest or area of expertise, please consider sharing it with others. Call Sid Stulberg at (416) 245-1549 and let him know. He'll pass it on to the editor.

Blair Angus, 281-2920
Apple IIGS, Telecommunications, Applesoft Programming, LOGIC BBS.

John Brennan, 731-7193
IIe, IIgs, DOS 3.3, ProDOS, Macintosh

Geoff Gaherty, 922-3399
(9am-5pm, Mon-Fri) Macintosh, Telecommunications, File transfers, LOGIC BBS.

Tom Klein, 783-4952
Communications, Hardware (elementary), printers, new users.

Jim Low, 690-3943
Geneaology (Family Roots), AppleWorks (database/word processing only), AppleSoft.

Robert Sutherland, 465-2945
New users, Apple Works, Ramworks.

Sid Stulberg, 245-1549
Publish It! (For the II family).

If you own a Macintosh...
We can provide assistance in setting up your hardware, advice on choosing software, and personalised training in its use. And, we will do it in your own office or home, at your convenience! We can also laser-print your documents.

If you own another computer...
We can transfer files and data of all kinds between it and the Macintosh, and produce laser-printed output.

If you are buying a computer...
We will be happy to help you choose your computer and software, and set it up for you.

Geoff Gaherty Computer Communications
1365 Yonge Street, Suite 204
Toronto, Ontario M4T 2P7 (416) 922-3399

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Apple II enthusiasts, it has grown to a group of users with a wide range of interests and needs. LOGIC continues to grow and meet the changing needs of our members.

It is interesting to read the Objectives and Purposes of LOGIC, as found in the Articles of our incorporation:

THE OBJECTIVES OF THIS CORPORATION SHALL BE TO:

* PROVIDE, PROMOTE AND ENCOURAGE EDUCATION AND THE DEVELOPMENT OF EDUCATIONAL MATERIALS DEALING WITH SMALL COMPUTERS.

* DEVELOP AND DISSEMINATE INFORMATION ON SMALL COMPUTERS TOGETHER WITH HARDWARE AND SOFTWARE DESIGNED FOR USE WITH THEM.

* SHARE KNOWLEDGE OF THE CAPABILITIES AND APPLICATIONS OF MICROCOMPUTERS AND RELATED EQUIPMENT AND TO EXTEND THE BOUNDARIES OF THIS KNOWLEDGE.

* RESEARCH AND DEVELOP APPLICATIONS AND USES OF THIS EQUIPMENT TO BENEFIT THE HANDICAPPED AND THE DISADVANTAGED.

* PROVIDE AN EDUCATIONAL FORUM FOR DISCUSSION ON AREAS OF INTEREST TO MICROCOMPUTER USERS.

* EXCHANGE IDEAS AND PROGRAMS WITH SIMILAR USER GROUPS AROUND THE WORLD.

* PROMOTE THE EXTENSION OF MICROCOMPUTING IN THE AREAS OF BUSINESS, SCIENCE, EDUCATION AND RECREATION.

* ENCOURAGE FAMILY USE OF MICROCOMPUTERS AND THE DEVELOPMENT OF PERSONAL COMPUTING AS A FAMILY ACTIVITY.

* PROVIDE A "PERSONAL" CONTACT FOR QUESTIONS, PROBLEMS, ETC. ARISING FROM MICROCOMPUTING.

Notice that the word Apple is not mentioned once. But a decade ago, Apple just happened to be the only serious personal computer available. Although LOGIC is primarily an Apple User Group, we do not restrict membership to only Apple users. I think our club is special because we recognize that computers in general have a capability of being a valuable tool to extend the ability of the human mind.

Your Directors have worked hard to carry out these objectives during the past year. Our objectives are just as valid today and we are dedicated to continue to pursue them in the coming year.

News Bits

• Apple Computer, Inc. announced on Sept. 7 that it has been awarded a contract to supply McDonnell Douglas Corp., Space Systems Company (SSC), with 1,000 Macintosh IIcx personal computer systems for use in its new Space Station Freedom building site in Huntington Beach, Calif. The SSC contract was awarded competitively and carries a three-year term under a leasing agreement with Dana Leasing Corp. The McDonnell Douglas Corp. estimates that Apple's contract award nears $9 million for systems, peripherals, support and service.

SSC has been designated by the U.S. Government as a prime contractor for the Space Station (Space Station Freedom), a multi-billion dollar project involving several other government contractors.

• Apple Canada hosted a national meeting of Canadian User Groups on August 19th, in Ottawa. LOGIC was represented by David McLeod. Several items of mutual interest were discussed, including better communications between User Groups in Canada and the formation of a national "Super Group". Look for further news on this possibility in future issues of Maple Orchard.

• Closer to home, LOGIC has a new president: Blair Angus, well-known as the former Apple II RT Sysop on the LOGIC BBS. Our new vice-president is Bill Bryant. Dan Mulvihill is the new secretary, and Morley Goddard and Sid Stulberg remain as Treasurer, and General Manager, respectively. We also have two new directors, Kathy Aubrey, and Victor Kennedy. Congratulations!

Quick Tips

by Jim Ferr

Apple II

The initial release of the Apple IIgs System Disk 4.0 contains a new version of the finder (version 1.2) that knows a nifty little trick. Go to the NDA (new-desk-accessory) menu and choose About the Finder... while holding down the Option key. The entire desktop, including the cursor, flips upside down — John Hair.

According to A2-Central, Apple has revealed the presence of a bug in Basic.System 1.3, (shipping with IIGS System 5.0). If you try to BLOAD a file into an area protected by the ProDOS bitmap, due to a missing RTS instruction, Basic.System tries to BSAVE back to your original file, which will wipe out its current contents if the file is unlocked and on an unlocked volume. Apple recommends continuing to use Basic.System 1.2 until this is resolved. By the way, the latest version of ProDOS 8 is 1.8, and it is also on the IIGS System Disk, in the SYSTEM directory, under the filename "P8".

Are you tired of typing "Y" every time you run Copy2Plus verion 8.x and it asks you if you want to use 80 columns? Here is a patch (reprinted from Q.U.A.C.K.S, May 1989) to skip this question. First, boot your system and enter AppleSoft BASIC. Insert the disk containing Copy II Plus. Type in the following at the "]" prompt, pressing Return after each line:

```
UNLOCK UTIL.SYSTEM
BLOAD UTIL.SYSTEM,TSYS,A$2000
POKE 9115,76
POKE 9116,127
POKE 9117,117
BSAVE UTIL.SYSTEM,TSYS,A$2000
```

[Editor's note: The values originally at locations 9115, 9116 and 9117 are 32, 89 and 107, respectively. You might want to check these locations before applying the patch, as I have not tested it personally. To check, use PRINT PEEK(location). I suggest you patch your working disk, not the original.]

Here is a variation on a ProDOS com-

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mand that is quite useful but not very well known. (From EAC Express, June/July 1989). Did you know that the CAT and CATALOG commands can accept a file type parameter? For instance, "CATALOG,TBAS" will display only files of type BAS (Basic programs).

Macintosh

If you're a Mac programmer, or just someone who writes on-disk documentation, here's a little tip for you: to change a TeachText document to read-only, change its file type (with ResEdit or another utility) to "ttro" from "TEXT".

If you have Pagemaker 3.0 (or 3.01), and you are a registered user, you should have received notice from Aldus of the upgrade to PageMaker 3.02, which allows you to place Microsoft Word 4.0 documents directly, and also includes a couple of bug fixes and minor enhancements. The upgrade is $25 U.S., I believe, and must be ordered direct from Aldus at (206) 628-2320.

You've probably heard many times that rebuilding the Mac desktop is good medicine now and then. It's true enough, but you lose all the comments entered into Get Info boxes. (To rebuild your desktop, hold down Option and Command while booting or mounting a disk.) If you want to save the comments, you can use ResEdit or a similar utility to copy the FCMT resource in your desktop file to a temporary file, and paste it into the new desktop file after the rebuild. If you're familiar with ResEdit, this is fairly simple stuff.

In the last issue, in my article on Mac programming, I said there was a good book on programming in C on the Mac, but couldn't remember its title. I'm not sure if this is the same book, but I stumbled across this one in Addison-Wesley's catalog: Macintosh® Programming Primer, subtitled Inside the Toolbox Using LightspeedC™, by Dave Mark and Cartwright Reed. Foreward by Stephen Chernicoff. 400 pages, $31.95 soft cover, part number 0-201-15662-8.

By the way: I neglected to mention a very important source of information, programs and documentation in my article last issue on Mac programming: APDA (Apple Programmers and Developers Association). In Canada, you can reach APDA by calling 1-800-637-0029.

Build ESELBE MIDI II
(a MIDI Adapter for the IIgs or Macintosh)

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With recent advances in microprocessor and digital technology, it is not surprising that consumer electronics has invaded the field of music. In the 70's, electronic musical instruments were prohibitively expensive, and their performance hardly merited the price. This changed in the early 80's with the appearance of affordable, high quality, electronic musical keyboards. What they lacked was a standard way they could be connected to storage devices or to one another.

One of the very first popular electronic musical keyboards was the Prophet-600, by Sequential Circuits, Inc. It included a medium-speed, serial data interface that they called "Universal Synthesizer Interface" (USI). This communication protocol set the groundwork for MIDI, a musical instrument communication standard established by the electronic musical instrument industry. Both American and Japanese manufacturers were involved with its inception. Moderately fast, versatile, powerful, inexpensive, and simple to implement, MIDI (for "Musical Instrument Digital Interface"), is a way of connecting together electronic musical instruments, sequencers, and audio digitizers. MIDI messages can do everything from turning notes on and off (at specific turn-on and turn-off velocities) to "active sensing", where a MIDI instrument determines whether its MIDI plug has fallen out. Of course, only the most expensive instruments support all features of the MIDI standard.

Relatively powerful MIDI instruments, with reasonably realistic sounds, are now within reach of the home user. For example, the Casio MT-540, a four-channel polyphonic MIDI keyboard is available for under $450 Canadian. Using a computer such as an Apple IIgs or Macintosh, music can be played and stored in the computer's memory, then edited, mixed, quantized, modified, and finally played back. Since MIDI data is just a long stream of numbers, music can be mixed or played without the introduction of noise or error. Music can now be manipulated in ways that were difficult, if not impossible, on old style analog equipment.

In the mid-early 80's, the computers of choice for MIDI work were Apple II series computers, usually using the "Passport MIDI Card". However, with non-existent hardware and software support from Apple for the line throughout the mid-1980's, the Apple II has been largely superseded by the Atari-ST and the Apple Macintosh for MIDI applications. Hopefully, this situation will change.

Though MIDI data is very similar to RS-232 asynchronous serial data that is commonly sent to printers and modems, there are some significant differences. To begin with, MIDI data always runs at 31.25 kilobaud, with 8 data bits and 2 stop bits, while RS-232 modem-data usually runs between 0.3 and 2.4 kilobaud, depending on the modem. Also, MIDI voltages go between 0 and +5 in a 1.5mA current loop, and are always ended with an "opto-isolator" device, whereas RS-232 voltages go both above and below zero, and end with a "line receiver" chip. The only things needed to transmit and receive MIDI data are an asynchronous communications chip and interface chips for conditioning the signal.

Apple now makes a MIDI adapter which utilizes the asynchronous chip in the IIgs and Macintosh serial ports. It is connected to the serial port just like a modem or printer. The musical instrument's "MIDI-IN" and "MIDI-OUT" plugs are also attached to the adapter. All that the interface is doing is converting outgoing RS-232 signals to the 5-volt 1.5mA current loop levels, and deriving RS-232 signals from an incoming opto-isolator signal.

The Apple MIDI interface is made up of four sections: a power supply, an input buffer/converter opto-isolator-circuit for incoming signals, an output limiter/converter for outgoing signals, and an oscillator. The power supply produces a steady 4 volts to operate an integrated circuit containing the buffer, and the opto-isolator. The oscillator produces a 1 MHz square-wave signal which, in a cumbersome fashion, tells the

Eselbe Midi II

page 1 of 2

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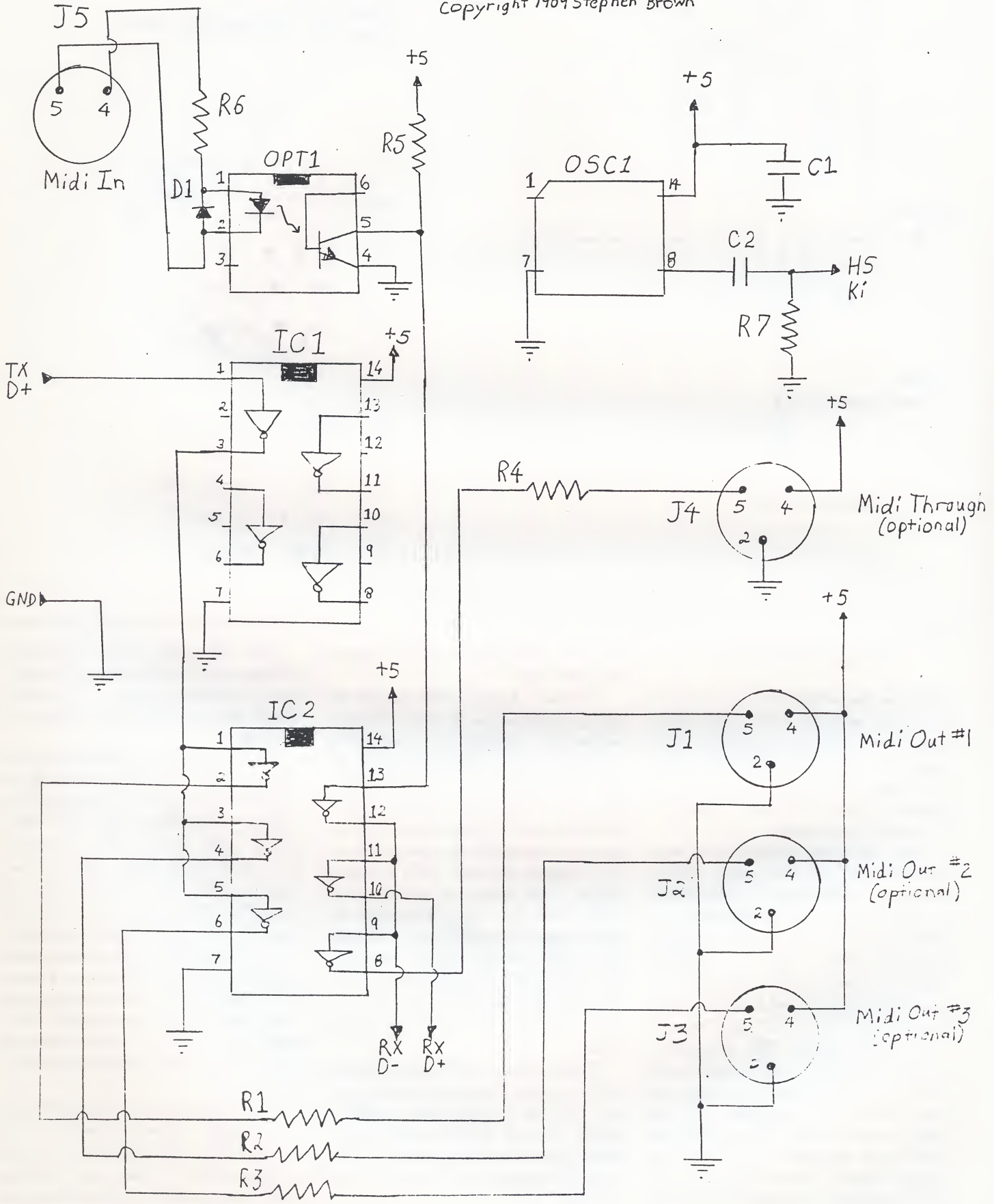

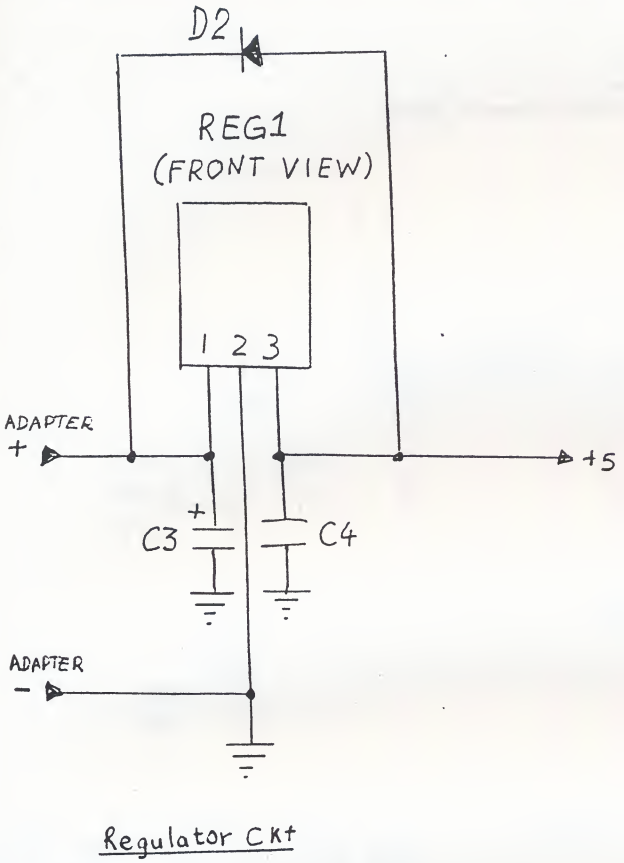

Regulator Ckt

Eselbe Midi II

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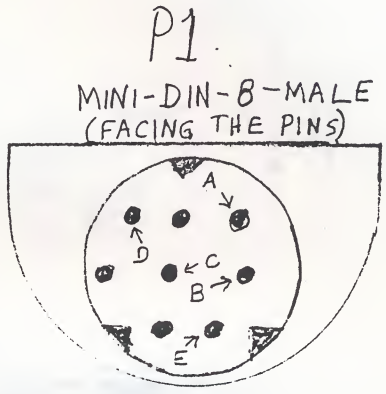

A	RXD+	BROWN
B	RXD-	BLUE
C	GND	YELLOW
D	TXD+	BLACK
E	HSK:	RED

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serial port that a MIDI adapter is present. More importantly, the 1 MHz signal makes it much more difficult for someone (say an Apple hardware hacker) to build his or her own Apple MIDI adapter, because the presence of this 1 MHz signal is not generally known or expected.

This article will explain how to build ESELBE MIDI II, a functionally similar, but superior MIDI adapter. (ES-EL-BE are my initials, spelled out phonetcially.) ESELBE MIDI II is better than Apple's product in several ways. First, Apple's circuit derives its power from the serial port itself, rectifying and filtering voltage from the "Handshake Out" pin of the asynchronous chip driver. This arrangement severely limits the current available to the circuit, and may also seriously stress the output driver in the computer. It is also sloppy, a cost-cutting design. My solution is to use an inexpensive external power supply. With this, no unusual stress is put on the serial drivers. My MIDI adapter will "look" no different than a modem or printer to the computer.

Secondly, Apple's MIDI adapter has only one MIDI output. It is often desirable to have two, or even three outputs so that instrument-specific MIDI information can go to the appropriate musical instrument. Of course, using Apple's design, multiple MIDI outputs are not possible due to power limitations imposed by the serial port driver. The design of ESELBE MIDI II permits several MIDI outputs as well as a true "MIDI Through" output. This makes my MIDI adapter more attractive to a professional MIDI-user than Apple's own product. Of course, if you are novice MIDI user, you don't have to connect the extra MIDI outputs if you won't be needing them.

Finally, Apple's MIDI adapter lists for $162 Canadian, a bargain at half that price, for a handful of parts and a couple of cables. ESELBE MIDI II is 100% Apple-MIDI adapter compatible, and can be assembled for about $35 if you shop around for parts.

Note: Since this project requires fine soldering work, I suggest that only experienced hobbyists attempt it. Assembly should take no more than a couple of evenings.

As long as it is neat, construction style can be left up to the individual. For digital applications, I usually use perforated board such as "Vectorboard with buses" prototyping board, though there are alternatives. Radio Shack makes an inexpensive experimenter's PC Board for under $5 (cat. #276-170). I used a 5" x 3" piece of Vectorboard style board for the prototype. The crystal-oscillator is the only electronic part which may be hard to obtain. I used a FOX brand unit, from Active Components (100 Lombard Street, Toronto, M5C 1M3). While other brands will work, their pinouts and power requirements may be different.

First mount the four Integrated Circuit (IC) sockets. The sockets hold the 7404 IC, the 1489 IC, the opto-isolator, and the crystal-oscillator. Make sure sufficient space is between them for the other parts to

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fit comfortably. If you are using the Radio Shack PC board, the IC sockets are mounted in the centre, down the length of the board.

Next, install the 7805 voltage-regulator, and assemble the regulator circuit close to the voltage-regulator. Observe the polarity markings on the electrolytic capacitor. If they are reversed, the capacitor will likely explode leaving foul-smelling and/or caustic capacitor-guts nearby — believe me! Install the rectifier, observing its polarity. There is a band (or dot) at one end; this is the end to which the arrow in the diagram is pointing.

Then, connect the power-in pins from each IC to their respective power rails. An IC with its power-leads reversed ceases to be an IC, and becomes a tiny space-heater instead. The resistors and other capacitors can now be installed along with the various jumpers and wires. Resistors and ceramic capacitors are not polarized and so it doesn't matter which way they go into the circuit. Install the diode, carefully observing its polarity. Just like the rectifier, there is a distinguishing mark at one end. If the diode is installed backwards, then the MIDI-Input won't work.

The next thing to do is connect the 5-pin DIN plugs that connect to the musical instruments, and will serve as MIDI-IN, MIDI-OUT(s), and, optionally, MIDI-through. Polarity is critical here because incorrectly wired MIDI plugs won't work. Pin numbers on the 5-pin DIN plugs are usually stamped into the plug, on the inside. Three conductor cable will be needed for the MIDI-OUT(s) and MIDI-through, while only 2-conductor cable will be needed for MIDI-IN. You can also connect the power-adapter to the board, again observing its polarity. If the Power-adapter is connected backwards, it could blow everything.

My 9-volt 100mA power-adapter came from Active Surplus (347 Queen Street West, Toronto) and cost about $2.00. Any power-adapter with around a 100mA capacity, and with a Direct Current (DC) output voltage between 8 and 12 volts will work. If a 12-volt power-adapter is used, increase the voltage rating on the electrolytic capacitor to 25 volts. The output voltage must be DC, not AC.

Check everything twice (especially the wiring around the IC's), and plug in the IC's, crystal-oscillator, and opto-isolator. Make sure they are going the right way, and that all pins are in their respective socket-holes. Then plug in the Power-adapter. If everything goes well, nothing should happen; nor should anything get hot. If you have a voltmeter or TTL Logic Probe, this would be a good time to use it. Inverters should be "high" (close to 5 volts) on one side, and "low" (close to zero volts) on the other. All IC's should have power as well as ground attached. Pin 5 of the opto-isolator should be "high". Applying 5 volts to the MIDI-IN plug (+ to pin 4, - to Pin 5) should cause Pin 5 of the opto-isolator to go "low". If you have a Logic Probe, the junction of C2 and R7 should be "busy". If everything is working so far, then it is safe to connect the serial cable with its mini-DIN-8 plug.

It was initially difficult to obtain a serial cable with a mini-DIN-8-pin-male connector that would mate with the serial connectors on the back of a IIgs (or Mac) and work in this application. I was going to cut up a generic Mac-to-Modem cable but I realized that not all pins were connected, i.e. some of the pins I needed were inaccessible. I ended up with a generic Mac-to-ImageWriter (mini-DIN-8-male to mini-DIN-8-male) cable, after I established that all pins were connected and were accessible (using an ohm-meter). This, of course, gave me two cables ending with mini-DIN-8-pin-males, so now I have a spare. My cable was purchased from Computronix (439 Queen St. West, Toronto).

[Editor's note: mini DIN-8 male connectors are available from Dealer Direct, Markham, Ontario.]

It is important that the serial cable is connected properly. I suppose it is possible to damage one's IIgs (or Mac) serial port by making an error, so I suggest that care is taken when ohm-metering plug pins to their respective wires. No doubt the colour code used on my generic cable will be different than that used on other people's generic cables.

Since the serial cable is carrying a 1 MHz signal (thanks, Apple), it is highly desirable to keep the cable as short as possible, typically 12 to 18 inches (30 to 45 cm). Longer cables may radiate annoying RFI (radio frequency interference), and the 1 MHz signal may also get "lost" due to the shunting action of the stray capacitance in the cable.

continued on page 17

ESELBE MIDI II Parts List

```
Semiconductors:
IC1    1489 or 75189 Line Receiver IC
IC2    7404 Hex Inverter IC
OPT1   4N25 Opto-Isolator (Active Components #13066)
OSC1   1.000 MHz Crystal Oscillator (Active Components #68101)
REG1   7805 Positive 5-volt Regulator
D1     1N914 or 1N4148 Silicon Diode
D2     1N4001 Silicon Rectifier
Resistors: (All resistors are +/- 5% tolerance, 1/4 watt)
R1,R2,R3,R4,R6   220 ohm resistors
R5               4.7K ohm resistor
R7               10K ohm resistor
Capacitors:
C1,C4   0.1 uF / 50-volt (or higher) Monolithic Ceramic Capacitors
C2      0.1 uF / 50-volt (or higher) Polyester or Mylar Capacitor
C3      47  uF / 16-volt Electrolytic Capacitor
Plugs:
J1,J2,J3,J4,J5   5-Pin Male DIN-plugs
                  (2 mandatory, 3 extras are optional)
P1               8-Pin Male Mini-DIN male plug on a cable (see text)
Sockets:
3  14 pin Integrated Circuit Sockets (for IC1, IC2, OSC1)
1   6 pin Integrated Circuit Socket  (for OPT1)
Miscellaneous:
1 Printed Circuit Board (see text)
1 Project Enclosure
Strain Reliefs
2-conductor cable (for MIDI-IN)
3-conductor cable (for MIDI-OUT and MIDI-Through)
1 110-Volt AC to (approx) 9-Volt DC Power Adapter (see text)
```

Our Members Speak Up

by Sid Stulberg, LOGIC General Manager

Our membership application contains a section called "Suggestions & Criticisms (don't pull any punches)". We are of the opinion that you would be interested in reading what our members have to say about their User Group.

We cannot print the names of those members who made the following comments because they were made in confidence and not as public "Letters to the Editor". Please be assured that these remarks are exactly as submitted and are not fabricated or changed in any way. My reply will follow each criticism or suggestion.

MBR: Members were promised an up-to-date software catalogue. Where is it? - O.W.B.

GM: A new software catalogue on a disk is provided to every new and renewing member. Updated files are posted monthly in the download section of the BBS as well as being printed in each issue of Maple Orchard.

MBR: How are membership fees being used? - V.K.

GM: LOGIC is incorporated in the Province of Ontario as a non-profit organization and LOGIC has indeed lived-up to this provision of its incorporation. We rely exclusively on volunteers with only one exception. Membership fees are being used to publish and print Maple Orchard, pay rent for meeting rooms, postage for mailing Maple Orchard and notices, phone bills for the BBS and providing an extensive software library of public domain Freeware and Shareware at very reasonable prices among other things.

MBR: Directors & hawkers to shut up at the back of the room when meetings are going on. - G.S.C.

GM: We no longer sell software while the meetings are in progress. Software sales start at 7 p.m., one-half hour before the meeting and close down when the meeting begins. Sales are then continued during intermission and sometimes, at the close of the meeting.

MBR: I would like to know when meetings are, so I can plan to attend. L.L.

GM: Meeting notices are published, in advance, on the back cover of each issue of Maple Orchard. They are also posted on the BBS's opening message and via a tape recording on LOGIC's voice phone: (416) 323-0828. Mac meetings are held on the first Tuesday of every month. Apple II meetings take place on the third Tuesday of every month.

MBR: User group for desktop publishing. - S.L.P.

GM: Frankly, if more members would take a greater interest in the Club and volunteer to help LOGIC in many areas, including SIG's (Special Interest Groups) we would all benefit dramatically. As it is now, we relay on a virtual handful of volunteers to do all the work. We are going to get from our Club only as much as we are prepared to put into it.

MBR: The reason I have been reluctant to renew my LOGIC membership because I think LOGIC has been too reticent to criticize Apple. In particular, I think LOGIC should tell Apple to "drop dead" with its asinine lawsuit against H.P. and Microsoft about New Wave and Windows. Apple has gotten away far too long with its destructive and belligerent legal policy of suing anyone it even suspects of copying Apple's products and it has upset me that LOGIC has (I suppose to avoid biting the hand that feeds it) not called Apple to task on this disgraceful method of "market share by litigation"! - M.S.

GM: First, thank you for renewing your membership. Now, let me make it crystal clear that Apple neither "feeds" LOGIC or interferes in LOGIC's affairs. Nor does LOGIC, on the other hand, determine Apple's policies or marketing strategy. Although, LOGIC, as a User Group does everything possible to help its members, and in this respect we convey our concerns to Apple regarding dealer support, service policies, product support, etc., we MAY sometimes have some effect in these areas. LOGIC is supported entirely by its members and is in NO WAY beholding to Apple Canada. *[Editor's note: I work for Apple Canada, in the Technical Response Group, and don't feel there is a conflict of interest in my editing of Maple Orchard. I don't turn down articles simply because they are critical of Apple, or Apple Canada, and the disclaimer in the front of Maple Orchard makes it clear that such opinions do not necessarily reflect my own nor those of LOGIC.]*

MBR: With all the tools available in the Mac world I find LOGIC's publications to be incredibly amateurish (case in point - this form): difficult to read, dot matrix, poor layout. - D.J.C.

GM: This member was referring to our membership application as "this form." While there may be lots of tools available in the Mac world, let me explain that LOGIC does not own any of this equipment. Again, we rely on volunteers who donate their own time and who use their own equipment for disk copying, page layout, correspondence, printing address labels and a host of other tasks which go hand-in-hand with running a User Group of LOGIC's size. *[Editor comment: we did ask him not to pull any punches. Perhaps the member in question has some time and expertise to donate?]*

Note: We have also received many compliments such as "keep up the good work"; "no complaints"; "you're doing fine"; "the best User Group there is", etc.

We would appreciate it if you, our members and readers, would begin sending your comments for publication in Maple Orchard in a "Letters" column. Mark your letter as a "Letter to the Editor". (See our address beside the table of contents.)

Mac/IIgs to Modem Cable

In the last issue of Maple Orchard, there was an article describing how to make a Mac to IBM data cable. I thought our readers might also appreciate pinouts for a Mac (or IIgs) to Hayes modem cable, so here they are. — Jim Ferr.

```
Mac or IIgs to Hayes modem cable

Mini DIN-8 Male -------DB-25 Male

1 DTR (HSKo)--------20 DTR (HSKo)
(allows hanging up by negating DTR)
2 CTS (HSKi)--------8 DCD (HSKi)
(lets the cpu monitor carrier status)
3 TXD (TXD-)--------2 TXD (TXD-)
4 & 8 GND (& RXD+)--7 GND (GND)
5 RXD (RXD-)--------3 RXD (RXD-)
```

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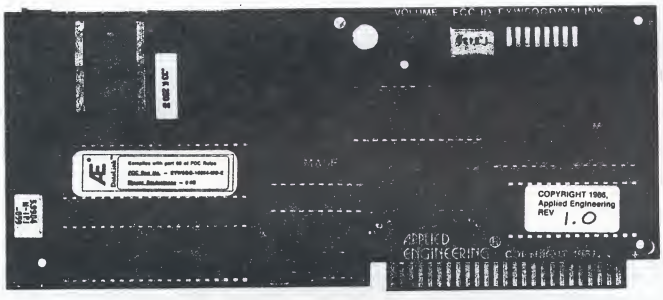

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The Applied Engineering Datalink 2400 is fully compatible with your Apple II+, IIE or IIGS personal computer and offers full-featured communications software (including XModem & YModem support). See the review in this issue of the Maple Orchard for more details regarding this powerful, reliable internal modem.

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This special "For Members Only" offer is available only to members in good standing of LOGIC through special arrangement with Arkon Electronics Limited. Orders must be placed with LOGIC by October 31st (only one order will be placed to the manufacturer) Call **Sid Stulberg** of LOGIC at **(416) 245-1549** to arrange for your modem today while supplies last . They're hot and they're at Arkon!

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About the Modem Offer

On the facing page is an ad resulting from a co-promotion of LOGIC and Arkon Electronics, Toronto. I approached Arkon recently asking them to offer these two modems to our members a special prices, because I believe these modems represent the best buys for quality, full compatibility and reasonable price available on the market today. (See the reviews that follow.)

To take advantage of the offer, you must contact Sid Stulberg (as it says in the ad). When a reasonable number of orders have been received, one order will be placed with the manufacturer, and within 10 days or a week the modems will be available at Arkon to pick up.

At Apple II meeting after the modems arrive, LOGIC will have telecommunications experts on hand to answer any questions in-depth and/or provide a demonstration of these products. However, Arkon will provide their own support as well, and our meeting is not intended to detract from that in any way.

If there is a good response to this offer, we may consider doing similar offers on different products in the future.

Jim Ferr, Maple Orchard Managing Editor [volunteer]

Applied Engineering DataLink 2400

reviewed by Jim Ferr

I just can't get over those folks at Applied Engineering. They keep coming up with great hardware, with features that make you think, "Why didn't anyone else think of that?"

For instance, would you believe me if I told you the DataLink 2400 actually has Xmodem send and receive capability in firmware? Why didn't anyone else think of that, you say. This means you could write a terminal program complete with Xmodem send/receive, in AppleSoft BASIC. What a concept! Or how about this great feature: jumpers on the DataLink 2400 let you reroute signals such as DCD and DSR, eliminating the need to make up a custom cable for applications such as running a Bulletin Board System. The DataLink 2400 has a command set almost identical to that of the Hayes 2400, and supports almost all of its commands and operating modes.

On top of these features, you get a five year warranty and a great terminal program complete with the latest (excepting Zmodem) file transfer protocols. If you have any Apple II, and you still have a free slot, buy the DataLink 2400 and save yourself the price of a Super Serial Card. (IIGS owners might opt for the external modem instead — read the next review.)

The Practical Modem 2400SA

reviewed by Jim Ferr

For a long time now, I've been a Hayes snob. No modem seemed to match Hayes quality and still be fully compatible. As a programmer, one of the things that drives me crazy is designers that cut features from their modems simply because "only a few" users will use them. Anyone familiar with bulletin board software knows how difficult it is to find a modem that is truly Hayes compatible. The Practical Peripherals PM2400SA is the first modem I've personally had my hands on that fits the bill, proving to me that Hayes isn't the only vendor who can provide a modem with a complete feature set and reasonable quality. In fact, I'm told that a), the PM2400SA uses the same Rockwell chip set that the Hayes 2400 uses, and that b) Hayes has recently acquired Practical Perhiperals! I guess Hayes also recognizes the value of their products.

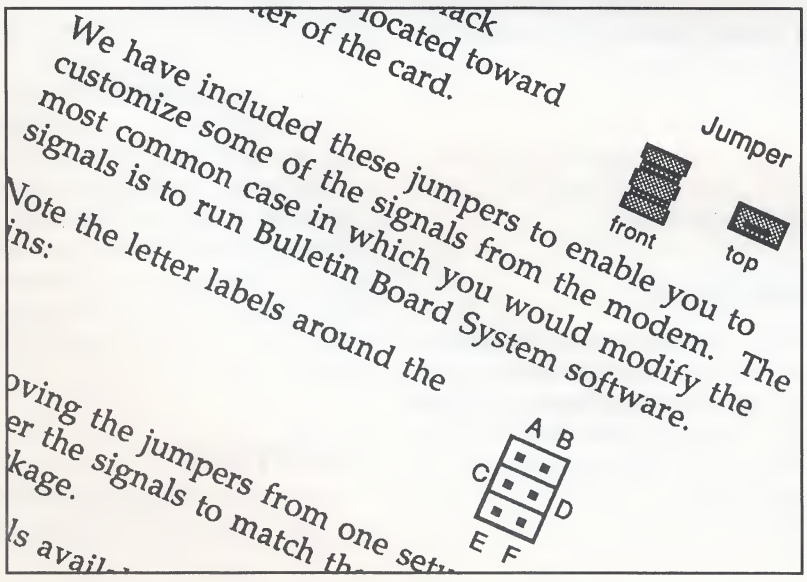
Essentially, the PM2400SA has the same feature set as the Hayes 2400. However, they did leave out one feature: synchronous communications ability. Fortunately, though, next to no-one, not even a bulletin board sysop, will need synchronous ability.

There is a non-volatile memory that holds the current configuration when the modem is shut off, or even unplugged. Things like speaker volume and reaction to control signals such as DTR are controlled by familiar AT commands, like ATL1 for low speaker volume, and AT&D2 to hangup and return to command state if the computer "drops" DTR.

The PM2400SA represents a good buy for a IIgs or Mac owner who wants an external modem. Potential BBS sysops will find it functions perfectly in that environment, as well. (Apple Canada's TechLink BBS in Toronto runs on the PM2400SA.) All you need is the appropriate cable, and software.

Software choices in the Mac environment include ZTerm 0.8, a shareware newcomer, as well as FreeTerm 3.0 and several others, all of which are in the LOGIC Disk Library. If you want high quality commercial software, I recommend Microphone II.

For IIgs owners, TalkIsCheap is only $40, direct from its author. A good commercial choice is ProTERM 2.1.


We have included these jumpers to enable you to
customize some of the signals from the modem. The
most common case in which you would modify the
signals is to run Bulletin Board System software.
Note the letter labels around the
Jumper
front
top
A B
C D
E F

The Joy of Making Telephone Calls with your Computer

(A Beginner's Guide to the World of Computer Communication)

by Kenneth Cohen

Computers are tools which can act like typewriters. Like paint brushes. Like sophisticated calculators. These computer activities are "solo" activities which you and your computer perform alone, unconnected with the rest of the world. Personal computers were originally intended for just that: computing with your own equipment, at your own speed and in your own time, free from outside control.

There is, however, another computing world in which millions of individual computers talk to each other over telephone lines. There are many reasons for doing this. You can meet other people. You can exchange computer programs and data files. You can obtain many kinds of information: articles on dozens of subjects, airline reservation information, price lists from computer software vendors, today's sports results, and on and on. You can also participate in "bulletin board systems" which cater to a variety of interests, hobbies, and professions.

If you have a computer at your office and you would like to work at home on weekends, you can access your office computer's files from your home. If your business has offices around the province or around the world, you can exchange files and much more. All by telephone.

And it's remarkably easy to do all of this. The basic equipment? Any brand of personal computer, a modem, a communications program, and a phone line.

What's a modem?

A modem is a little electronic box which sits between your computer and your telephone line. One end of it plugs into a standard telephone jack. The other end connects to your computer. The modem, sitting between the telephone system and your computer, translates incoming telephone signals into the digital information which your computer understands. And the modem also translates outgoing computer information into the analog signals which the phone system understands.

Among the important criteria when buying a modem are its speed and its "Hayes compatibility". Modem speeds range from 300 baud (which refers to the number of bits per second the modem is able to transmit) to 9600 baud. The most popular modems today have a speed of 2400 baud, which represents a reasonable compromise between everyone's desire for more speed, and the high price of 9600 baud modems.

The most popular modems today have a speed of 2400 baud... a reasonable compromise...

Hayes compatibility is a technical matter which I won't discuss in detail. Suffice it to say that in my experience, genuine Hayes modems are the most reliable ones on the market. There are many other brands, most of which claim to be "100% Hayes compatible", but which often are not. Sometimes this can produce problems for the user.

[Editor's note: see reviews of the AE DataLink 2400 and Practical Peripherals 2400SA elsewhere in this issue.]

Interfaces

When computers are connected to devices such as modems, printers, and disk drives, they also need special electronic circuits which let them "talk" to these external devices. These special circuits are called "interfaces". Your computer needs an interface to talk to a modem. Some computers, such as the Apple IIgs, Apple IIc, and Macintosh, have this interface built into the computer. You plug your modem cable into a "port" in the back of the computer and you're done.

Other computers, such as the Apple IIe and II Plus, do not include a built-in interface. In these cases, you have two choices. First, you can buy an interface card such as Apple's "Super Serial Card" to plug into an expansion slot of your computer, and then plug your modem into this card. This obviously involves buying two pieces of equipment: the modem and the interface card. Or second, you can buy a special kind of modem called an "internal modem", which fits into one of the computer's expansion slots and contains its own built-in interface. So, an "internal modem" is a one piece unit which combines modem and interface, and fits into a slot inside a computer. An "external modem" requires a separate interface (included in some computers) and sits outside the computer.

The advantage of external modems is that they will work with any personal computer on the market. If you sell your present computer next year and buy a new one, your external modem will work with the new computer, too. For any computer with a built-in interface, an external modem is the obvious choice. And if you have an Apple IIe or II Plus with an Apple Super Serial interface card, you can keep the external modem when you sell your computer, and sell the interface card with the computer.

For computers without a built-in interface, such as the Apple IIe and II Plus, an internal modem has the advantage of combining the interface with the modem, so it costs much less than a separate interface card and external modem. On the other hand, if you sell your IIe or II Plus, you'll probably want to sell the modem as well, as your internal modem will not work on most other computers (except for the Apple IIgs , which shares the same system of internal expansion slots as the IIe. The IIgs is a special case: it includes both a built-in interface for use by external modems, and slots if you prefer to use an internal modem.)

Software

Just as you need computer programs to use your computer for typing, painting,

and organizing, you also need a program for communicating. Communications programs dial phone numbers, send and receive files, and so on. There are a variety of programs available for every brand of microcomputer.

Computer programs are very much a matter of personal taste. They range from technical and sophisticated to rudimentary and easy to learn. Beginners should look for programs which are easy to learn and use but contain some advanced capabilities that you can use when you're ready for them. Basic features include the ability to store and automatically dial many different phone numbers; the ability to "download" (receive to your computer) and "upload" (send from your computer) files using the popular "Xmodem" method of transmitting information; and a built-in text editor (a simple word processor). An advanced convenience and programming feature which will prove useful as you gain experience is "macro" or "scripting" capability. And the ability to answer incoming calls automatically will be important if you want to access your computer remotely (from a computer in another place).

My personal favourite program for the Apple IIe, IIc and IIgs is Mousetalk. Among other popular programs you should investigate are TalkIsCheap and ProTERM. If you have an Apple II Plus, the all-time favourite is the rather complex ASCII Express Professional (popularly known as "AE Pro"), which is a little out-of-date now. The Applied Engineering DataLink modems come with their own communications software. For the Macintosh, I'm currently using ZTerm, an inexpensive shareware program. I may eventually graduate from there to Red Ryder, or to Microphone II, which is about as sophisticated (and expensive!) a communications package as anyone could want.

Where to Begin

You may already have a specific communications function in mind for your computer, such as one related to your business. If that is the case, that is where you should begin.

If you're simply interested in expanding your computer's horizons, you might begin by calling and joining a local bulletin board system ("BBS"). A BBS consists of someone's personal computer equipped with a modem, disk drives, and special "BBS" software which enables this "host" computer to answer incoming calls automatically 24 hours daily and direct them to whatever BBS activities the system offers.

A starting point may be your local computer club. LOGIC, for example, operates a BBS for its members. The LOGIC BBS includes public discussion areas where you can leave messages; a library of programs which you can "download" to your computer; an "electronic mail" facility for sending private "letters" to other users, and other interesting features. The LOGIC BBS is frequented by experienced computer users who will gladly answer your questions and provide plenty of good advice.

When you join a BBS, you'll be assigned a confidential password which you will use to "log on" (gain access) to that system. The password ensures that no one else can access the system using your name.

From computer clubs, you can usually obtain the phone numbers of many other BBS's, both in your own calling area and long distance, which you can try out. Some of these will immediately validate you as a user. Some will ask you to complete an "online" questionnaire and await validation by the "sysop" ("System Operator"). Some will request membership fees. Some cater to specific computer brands, or to specific occupations or age groups. They're operated by clubs, businesses, and individuals. You'll find from experience which ones are best suited to your interests.

You'll also discover commercial information services: CompuServe, GEnie, The Dow Jones News/Retrieval Service, and a number of others. These are comprehensive, sophisticated systems which charge according to the amount of time you use. Hourly rates vary and are generally much lower during non-business hours. Some offer "demonstration" modes free of charge. These systems have local telephone numbers available in large cities, so that long distance charges are only a consideration for those living in small or remote communities.

Commercial services offer news, movie reviews, bulletin boards, electronic mail, online games, airline reservations, enormous public domain software libraries, online stores, and many other features. Highly specialized services cater to professional people. For example, I often call QuickLaw, a Canadian information service which contains, among other things, a vast database of legal decisions from Canadian courts. While QuickLaw is very expensive ($90.00 per hour during business hours, $45.00 at other times), it speeds up legal research significantly and so saves my clients a lot of money. Similar services are available for other professions.

So, if you're interested in expanding your computer horizons, communicating with other systems is an ideal way to learn a lot and to meet other people with the same interests and problems. I've been at it for several years and I highly recommend it.

Build Your Own MIDI Adapter
(continued from page 12)

The particular way the MIDI port is accessed depends on your software. One of the easiest MIDI packages for the Apple IIgs is DiversiTune by Bill Basham (Diversified Software Research, Inc., 34880 Bunker Hill, Farmington Hills, MI, Zipcode 48331-3236, $75 US, not copy-protected). Before it can be used, DiversiTune must be told to expect an Apple MIDI Interface. If it is not installed that way, install it, and re-boot. Make sure you plug the MIDI adapter into the same serial port that you specified in the software! Connect the MIDI-IN and MIDI-OUT plugs to your MIDI-compatible musical instrument.

You will then have to tell DiversiTune to get MIDI-input from the modem port and output it to the modem port. Do this for all 32 tracks. For more specific instructions, read the documentation which is on the DiversiTune disk. Turn on your musical instrument (watch the volume!) and go! Once you are sure that the project works, it can be neatly housed in a plastic box of your choice. Use a strain-relief on all wires leaving the box.

All parts in this project are common, off-the-shelf components, but intelligent substitutions can be made in most cases. I wrote this article after having completed a working model of the ESELBE MIDI II. The adapter was tested with DiversiTune (recording and playback) and it worked with no apparent problems.

I can be contacted via E-mail at the following addresses to answer questions

(see next page)

GEOS
for the Apple II

by Peter Cameron

What is GEOS? You can think of GEOS as an extension of ProDOS that brings a family of graphic-based, integrated programs to your Apple IIe, IIc or IIgs. ProDOS files can be handled and launched from the GEOS Desktop. The Desktop is similar to the MouseDesk or Catalyst packages that were available for the Apple.

GEOS can read all ProDOS files, but ProDOS can't read all GEOS files. You can even use the Desktop to rearrange files on a ProDOS disk. GEOS also rids you of some of ProDOS's limitations. It allows any printable character to be used in file names and has no limit on directory size or pathname length.

A file called Geoload.System is supplied with the GEOS package. If this file is installed as the first system file on your ProDOS disks you can launch ProDOS system files from the GEOS Desktop.

GEOS has been known to Commodore users for years, in fact it is the operating system for Commodore. That may lead to some resistance from Apple users who fear their computer is being turned into a Commodore 64. Or as some reviewers have said it turns your Apple into a Mac. But neither is a true assessment of the facts.

GEOS is available as four packages at present. The first is a main module that includes the operating system, the Desktop, a word processor (geoWrite), a drawing program (geoPaint) and several other applications.

geoPublish (desktop publishing), geoCalc (spreadsheet) and geoFile (data base) are applications that can be added to the main program or used by themselves (you don't need the main package to use them).

What do you need?

The minimum requirements of the GEOS system are a 128K Apple with one 5 1/4 drive. Don't even think of using the package with the minimum configuration — you'll quickly wish you'd never heard of GEOS.

Recommended additions to the requirements are a mouse (a joystick will do in a pinch), a printer that'll work with the program (most do, but it may take some doing — more about that later), extra RAM (very useful) and additional drives (the program will support up to four drives. You can mix hard, 5 1/4, 3 1/2 and RAM).

How it works

GEOS is an acronym for Graphic Environment Operating System. The program operates in double hi-res, hence the need for a 128K Apple. Like the Mac, it is a graphic interface. The desktop shows icons for your drives down the right hand side of the screen. There's a waste basket icon in the lower right for discarding files. In the lower left corner is an icon showing you what printer drivers are active. You can also install other drivers that will dump the screen directly to a printer or a LaserWriter.

There are pull-down menus across the top of the screen that you can use to launch programs or work on disks. The centre of the screen shows icons representing the first eight files on the current disk, shown by a darkened icon to the right of the screen. You can page back and forth through the disk directory by clicking the mouse on a dog-eared page symbol at the lower left of the directory screen. Besides the icon format, files can be shown by name, size, date etc.

Advantages / Faults

The graphic interface is both the strength and weakness of the system. For those who enjoy using a mouse and appreciate graphic interfaces, this is a wonderful program to use. It is easy to move between applications and worksheets by moving the mouse pointer from menu to menu.

But the graphic interface is also one of the program's faults. The program redraws the screen as you go and this can be slow because the program is disk-based. If you change applications or call a desk accessory, a data or program disk is written to or read from, or both. Being disk-based has its advantages ... it lessens the chance of losing information. This is where extra drives come in. Installing the program on a hard disk or large RAM disk gives you the most speed. I've heard that a Zip or Rocket chip can also help, though the program apparently doesn't work at fast speed with Transwarp GS. But the publisher, Berkeley Softworks, is issuing new drivers as people point out problems.

Applications

geoWrite is a full-featured, What-you-see-is-what-you-get word processor. Several fonts are available in several styles (bold, outline, etc) and points (sizes). Different fonts, styles and sizes can be mixed within a document.

geoWrite also has an NLQ mode which supports bold, underline, italic, superscript and subscript modes (depending on the capability of your printer, of course). Four LaserWriter fonts and a laser driver are available for those lucky enough to be using a LaserWriter.

A little application called Text Grabber lets you import text from other word processors into geoWrite. Presently, parameters are included to convert AppleWorks, MultiScribe, WordPerfect and generic text files. The AppleWorks grabber works well and most formatting is preserved. I've had no luck with the generic grabber and I don't have any MultiScribe or

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Build Your Own MIDI Adapter (conclusion)

on this article:

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First Choice:
[SBROWN] on LOGIC's BBS system
(416) 922-1626, 300-2400 bps, 24
hours
Second Choice:
ProLine: sb@pro-generic
ARPA:crash!pnet01!pro-
generic!sb@nosc.mil
INET:sb@pro-generic.cts.com
UUCP:crash!pnet01!pro-generic!sb
```

I wish to acknowledge Dirk Mohl's February 1989 article "Midi-Interface for Apple IIGS" in AUGE's "User Magazine", "Amiga MIDI Interface circuit" by Steve Stevens (copyright 1986 public domain), and John Simonton's August 1989 article "Musical Instrument Digital Interface" in "Radio Electronics" as invaluable sources for this article. This article could not have been written without the contributions of Achim Patzner (of Rheinbach, Germany) and Tom Smith (of Willowdale, Canada).

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WordPerfect files to try.

Graphics can also be included in your word processor document. The Photo Manager allows you to take images stored in "Photo Albums" and move them into the word processor. The graphics can be "hidden" while you are working on a document to speed up screen redraws.

geoPaint is a bit like MousePaint in double hi-res. There are more capable drawing programs, but this one stands up quite well as a way to process images for use in other GEOS applications.

Graphic Grabber lets you import graphics from a variety of programs. Print Shop, Newsroom, DazzleDraw and PrintMaster are supported. I've heard of problems with some PrintMaster graphics, but have no experience with this myself. I've had no trouble converting files from the other three formats. These grabbed graphics can then be used in documents made with the other applications and altered with geoPaint.

geoSpell is a spell-checker to be used with geoWrite files. The dictionary is relatively small, about 38,000 words I believe, but you can make your own dictionaries to add to its capabilities. It's reasonably fast.

geoMerge allows you to make up those obnoxious personalized form letters we all love to find in the mail box. The program will prompt you to type in information manually during printing or can take information from another file.

geoLaser is the driver for printing 300dpi print or graphics on a LaserWriter. Not having one of these beasts, I can't comment on how this works. Berkeley says owners of LaserWriter Plus owners can order six additional fonts.

Several desk accessories also are included in the main package. There is an alarm clock which can be operated by a number of hardware clocks or from a software clock driver. The alarm clock can be set to go off at any time or called to the screen to check the time.

There's a calculator that will do the four basic functions and the answers can be cut and copied into documents. A notepad DA lets you store up to 250 pages of notes at 250 characters per page. These notes can be clipped and moved into other applications. The photo manager lets you make photo albums from which you can cut graphics for use in applications such as the paint or word processor programs. A text manager accomplishes a similar function for text.

The basic GEOS system comes on three double-sided 5 1/4 disks with more than 200 pages of documentation. A lot of reading is recommended before you dive in as it is quite complicated getting started and make a set of work disks. But the time you spend can be worth it.

When I got the main package, I was disappointed to find out it was copy-protected and you had to use an uncopyable boot disk to start things up. Although a backup was supplied, I don't think this is the way to sell an operating system that creates proprietary files.

I wrote a letter to Berkeley complaining, and apparently so did other Apple owners, as the program is now sold without copy protection. However, your disks are keyed to your name or a code to discourage the trading of applications among users ... fair enough.

At the time I wrote about the copy protection problems, I also pointed out some problems I was having with the program. About a month later, I got a letter saying the enclosed booklet should solve my problems. It was for Commodore computers and reinforced rumors I'd heard about Berkeley's poor customer support. I solved those problems on my own after much trial and error.

A short while ago a new printer was added to the system. It worked with all the other programs I had, but I could not get it to work with GEOS. The program was too smart. I have a IIc and thus was sending to the printer through a serial port. The printer is a Brother that is Epson FX compatible, but operates as a serial printer. GEOS would not let this work and told me that my serial port could not drive a parallel printer. A phone call to Berkeley resulted in the advice to try the Hotlink driver with a serial cable. All is well now that the program believes it is sending serial information to a cable that will translate it into parallel format. A week after the call, a new disk of updated drivers arrived in the mail. Maybe Berkeley has gained some respect for Apple users.

Conclusions

This isn't a program for everyone, but then there is no such animal. GS owners might find they are better off with AppleWorks GS, but a GEOS package that will do what AppleWorks GS can will cost less, unless you are upgrading.

Those with only one drive and limited memory aren't advised to bother trying GEOS. Berkeley recommends 384K, and I'm using it with 640K and two 5 1/4 drives (800K UniDisks would be better).

I use AppleWorks (version 1.1 with MacroWorks) to write documents and then port them into GEOS if I want fonts or graphics added or if I want text for geoPublish.

I also like the fact that graphics libraries I have for other programs aren't obsoleted by this program. I don't use the Print Shop or Newsroom any more, but the graphics disks still see a lot of time in the drives.

Let me know if there are other GEOS users out there. I can be reached by E-mail on the LOGIC BBS [PeterCameron]. Feel free to ask questions or write with your impressions of the program. I'd like to hear how people are doing with the geoFile and geoCalc programs (I don't have those and can only go by what I've read). If there's interest out there, I'll forge ahead with a look at geoPublish in a future issue.

I'd also like to know if anyone knows of any third party applications for GEOS. The shareware market turned out quite a few for the Commodore version of GEOS.

Do you sell something our members buy? Advertise in Maple Orchard and reach over 700 Macintosh and Apple II purchasers.

Call Jim Ferr for information, at (416) 671-6006 during business hours.

Is EDUCORP Stealing from Software Developers?

by Mark Chally

(Reprinted from the NCMC Bulletin Vol. 5 No. 4)

EDUCORP (formerly EDUCOMP) distributes software. Though the software they distribute is intended to be free of charge, EDUCORP provides it "for a fee". The two major categories of software they distribute are Shareware and Public Domain. EDUCORP isn't the only company profiting by selling Public Domain and Shareware, but they are the only one I have personally encountered. Public Domain software is basically a product created to be free of charge. Perhaps this is because the author doesn't believe the product is worth much. He may think end-users deserve such a product, or wish to make a gift of his work. He retains no rights and declares it "in the public domain", meaning the public at large owns it.

Shareware is similar, but there are differences. The author almost always retains the rights to his product and claims a copyright, just as he would if it were commercial. In addition, he usually wishes to be compensated in some way. If the end-user is satisfied with the product after testing it under his own conditions and on his own terms, he is on his honour to contribute to the author or to some associated institution or worthy cause in return for use of the product. Shareware fees tend to be five or ten dollars, but can be much higher. Some Shareware products have no specific fee or require a contribution that is non-monetary (such as compact discs or beer).

Unfortunately, most Shareware authors believe that extremely few who get reasonable use from their products ever contribute. These authors, who have predetermined that their products have too small a market niche or aren't worth enough to market, are already likely to receive little for their work. Surprisingly, most authors would learn less than the minimum wage if they were to depend on Shareware contributions. Though I have personally experienced this lack of support, it doesn't disturb me because I was aware of it before offering my work as Shareware. My philosophy is not to expect significant contributions. If someone honest appreciates the product, he'll send what it's worth, or offer some of his work in the same spirit.

I wrote HexFlags for myself, then decided it may be useful to others, though not marketable, so I shared it. Instead of giving it away, I challenged others to contribute in return for my work, to myself or the Macintosh development arena to which many people have already contributed.

"Entrepeneurs" apparently decided that collecting money to distribute free software would be a good source of income.

"Entrepeneurs" apparently decided that collecting money to distribute free software would be a good source of income. EDUCORP calls it "almost free". In fact is WAS free, before THEY charged for it. They and other companies have amassed huge libraries of Public Domain and Shareware, and charged for their distribution. Some purchasers may not be aware the software should be free of charge. Many do not object to the sale of Public Domain software. It may not be illegal or technically "wrong", but it's not the kind of thing I could do and still be able to sleep at night. However, developers have complained about EDUCORP and other profit-making institutions selling their Shareware products. Frequently, the end-user feels he has "paid" for the product after giving EDUCORP seven dollars for a floppy disk, or 199 dollars for a CD ROM "full" of "product". We feel the end-user is not likely to contribute after paying such "distribution" fees. Though many products have messages forbidding companies such as EDUCORP to distribute them, they are being sold anyway. HexFlags is such a product. Authors have expressed that distributors have sold their products even after they were forbidden to. I am among those frustrated individuals. In addition, I was told in a phone conversation that it would be "impossible" to obtain the approval of Shareware authors before including their copyrighted works in a software library!

I believe that EDUCORP is STILL selling HexFlags. I believe Vahé Guzelimian has misrepresented his company and its dealings with developers in its communications. One seems powerless to combat such abuses; it is a struggle simply to have one's copyrighted work removed from the EDUCORP catalog. Many authors no longer make an effort. Most probably feel they've been beaten. Others aren't EVEN AWARE EDUCORP is selling their software. More amazing, some know and apparently don't care! If there's money to be made from my work, I want to make it. More importantly, if I've decided HexFlags should be free, it should be. Because it is a copyrighted work, I deserve protection from the Copyright Act. An individual must defend his copyright as I am. If someone is wrongly selling your work, you should defend it also. We owe it to ourselves and our industry to protect the fruits of our labour so that our generosity won't be nullified or reversed by someone else's greed.

Please consider the following: If you pay seven dollars for a disk containing "product", what will BE on that disk? Does the seller CARE about its content? If he doesn't care enough to obtain the author's consent to distribute it, he probably doesn't care if it works. If you purchase "almost

free" software because you don't want to spend time and money using pay services and BBSes, or you don't want to buy a modem, join a user group. If you can't find a user group, ask around, there are many. Please avoid contributing to the resources of a company that uses them AGAINST developers attempting to serve you.

Thank you for reading this. You can help combat copyright infringement by notifying anyone whose copyrighted software is being sold though expressly prohibited. You can also help by distributing this letter as widely as possible. The effort will be appreciated.

Mark Chally — Chally Micro Solutions
P.O. Box 4600, West Covina, CA
91791
MacNET: CHALLY

Afterword from the Editor

by Jim Ferr

I picked up an EDUCORP catalog while I was attending MacWorld, Boston. Here are a couple of items of interest.

In the fine print beneath the table of contents, it says "All disk compilations are copyrighted. No duplication of EDUCORP disks for resale is permitted without written permission."

A little further on, is says "All public domain and shareware items in this catalog are provided free, with a service charge for duplication, and other expenses. No part of this service charge is sent by EDUCORP to shareware authors. If a developer requests a shareware registration fee, please send the fee if you continue to use the product. This will ensure the continuing availabilty of these excellent shareware sources."

I would welcome comments on this issue from our readers and especially from CRS (Canada Remote Systems), the Canadian distributor of EDUCORP software.

— Jim Ferr, Managing Editor [volunteer]

Maple Orchard Author CheckList

by Jim Ferr, Managing Editor [volunteer]

I couldn't let another issue of Maple Orchard go by without providing all you potential authors out there with some idea of what makes a good article. I'm no professional writer myself (at least not yet!) but I've picked up a lot of good information from various sources and I've applied it to Maple Orchard. These guidelines are just that: guidelines. There are no rules engraved in stone, and each writer is different. The most important thing is that you write something, and submit it. Seeing your name in print may just convince you that you've got what it takes to become a professional writer. Who knows? You may have a column in Nibble Magazine or MacWorld one day...

Content

• Do you know your topic? Write about something you know.

• Are you writing for your audience? Keep the reader in mind as you write. What information will the reader need? Keep your writing reader-centered.

• Is your writing personal? Is it saturated with your personality? Does it simply jump off the page? It should! Readers prefer to read things written by fellow human beings, not dry essays or manuals that sound as if they were written by machines.

Style

• How is your language? Are you talking down to the reader, or are you and the reader on an equal level? Your use of pronouns is important: "his" is not valid — "his or her" is. Non-sexist terms make your text friendly to both sexes.

• How is your spelling? If you're a terrible speller, get a spelling checker and use it. Articles that require extensive revision are usually returned to the author— we don't mind making minor corrections, however.

• How is your English? If you want to be a writer, you must have a good command of the English language. Poor grammar and use of slang and/or jargon is taboo. Along similar lines, excess verbosity should be avoided. For example, in the phrase "the method by which the ...", the words "by which" serve no useful purpose.

• Computer terminology and abbreviations. Are you using computer terms correctly and in context? Another problem is standardization: in Maple Orchard, all Apple II's use the Roman numeral "II", not "//" or "][". Megabyte can be spelled out if used infrequently; it's abbreviation is "MB", not "Mb" — we use Apple Computer's Publication Style Guide for such things.

Format

• Have you included the title of your article and your name as you would like it to appear? [It's amazing how many people don't put their name in articles.] If you want your readers to be able to reach you, have you ended your article by letting them know how to do so?

• Is the article in text format, with any tables or sections that require special formatting in separate files? [Editor's note: I can handle MacWrite and Microsoft Word format, for tables and so forth, but prefer the body text to be submitted as text with no special formatting.]

• Have you refrained from using the spacebar for indentation? All articles will be indented when layout is performed; any spacebar indentation must be removed.

• Have you taken advantage of word wrap? If your article has carriage returns at the end of every line, more time is required to remove them.

(continued on next page)

Computers in Education

by Glen Denyer

(This is the first of a series of articles on the subject. The ones to follow will look at the current situation and some of the issues involved in more detail.)

Birds of a feather do tend to flock together. It's true. Look around any staff cafeteria in any school and you will see for yourself. At one table there will be a group of jocks, dressed in sweats, still moist from the early lunch-hour work-out of jog or swim. At another the hit-squad for Affirmative Action might be huddled over their skim milk, diet pop and dried toast. At still another table you can find the administration groupies and career fast-trackers. Recently in education, another group has arisen whose members eat their lunches together of necessity. No one else will sit with them for more than a couple of minutes.

"This seat taken?" someone might ask one of them.

"No. Sit down. Take a load off your feet and put it on your brains."

"... if you guys start to talk about computers, I'm leaving."

"OK. But if you guys start to talk about computers, I'm leaving."

Group dynamics being what they are, there is a fair amount of fluidity when it comes to which group one will sit with. The well-dressed business education teacher will share lunch with an art teacher who is dressed in corduroy pants and a campy t-shirt. Poets and mathematicians easily find a common ground on which to build a conversation. But few outsiders can tolerate a steady diet of RAM's, ROM's, bits, bytes, drives, inits and modems without getting indigestion; for, despite all the Ministry's fuss and flim-flammery, all its pompous pronouncements and fine promises, most teachers are still nervous of computers, and a surprisingly miniscule number actually use them when it comes to designing and implementing courses. Even fewer use them as teaching devices, despite their enormous potential.

A friend of mine recently returned to North York after having taught in the city of Toronto for a year. The school she was placed in was a large technical school with a population of over eighteen hundred kids. To the best of her knowledge, outside of the those in the labs, there were fewer than four computers available placed throughout the school for the use of the staff. Of these, one, an ageing Commodore, was locked up in the English department. No one used it. No one wanted to. There wasn't even any software for it.

In North York, the co-ordinator of English, along with a number of teachers, has been working very hard indeed to get computers into English classes. One of the things this group of people has tried to do is to get computers, specifically Macintoshes, into the teachers' offices, along with modems and hard drives. The plan was (and still is) to educate the teachers, make them computer literate, get them on a bulletin board so that they could share ideas, and, finally, encourage them to use the labs in their schools as an integral part of their courses. Just last year, the heads of the English departments were invited to attend a meeting to plan how to share the computer systems that could be purchased. All they had to do was show up and indicate an interest. At least six schools never even bothered to send a representative.

What is the status of computers in education? What computers do the boards use? How many schools have labs set aside for use by departments other than computer teachers? If your child does not take programming or keyboarding, what are the chances that he or she will ever be given a chance, beyond elementary school, of working on computers.

Over the next several issues of Maple Orchard, I hope to look at some of these questions. If you have questions, or concerns, or if you are a teacher and have something to say on the subject, please feel free to drop me a note in E-mail. In fact, if you are a teacher, I would particularly like to hear from you, especially concerning what goes on in your school or board, or even in your own department. All information will be treated confidentially, and I will not use the name of any individual school (although I will identify the board).

Finally, if you would like to write an article yourself on this subject for Maple Orchard, put a proposal into the upload section of the Maple Orchard Round Table and we will get back to you.

Author CheckList
(continued from last page)

• How is your paragraphing? A single or double carriage return marks the end of a paragraph.

• Subheadings (if any) should be in full upper and lower case, with the first letter of each important word capitalized. (See the subheads in this article.)

• Are you submitting any illustrations or diagrams? If so, are they of sufficient quality? Faded photocopies and handwritten diagrams are not the best idea. If you have a Mac, include your illustrations on disk, in TIFF or MacPaint format. Optionally, Adobe Illustrator files can be used. In the Apple II area, we prefer something on paper.

• How are you submitting your article? If you want to submit it electronically, please upload it to the LOGIC BBS, in the Maple Orchard Round Table, to the "<U>pload" area.

• Have you uploaded your article to the LOGIC BBS in compressed format? This is especially necessary if your article is lengthy or composed of more than one file (eg. article text, tables and illustrations) Use Either ShrinkIT 2.1 "BXY" format if you have an Apple II, or Stuffit 1.5.1 format if you have a Macintosh. (If you submit your article on disk, at a meeting, keep in mind we can accept the following: ProDOS 5.25 inch, 3.5 inch; Macintosh 400K and 800K.)

Macintosh Prices and Upgrade Paths

by Robert Whitelock

It used to be easy to purchase a Macintosh back in 1984. All you needed was some money (in fact, lots of it). There was only one model, the 128K version. Today, anyone thinking of buying a Mac is confronted with a bewildering array of choices and prices. Only one thing hasn't really changed: You still need a lot of money for most of the choices.

As the accompanying table indicates, all Macs are not created equal. They are divided into two families of computers; those based on the original 68000 microprocessor and those based on newer, enhanced models. The major differences between the two families involve processing speed, the availability of colour displays and compatibility with Apple's pre-announced System 7.0.

The 68000 based family of Macs includes the Macintosh Plus and SE, as well as their predecessors, the Mac 128K, 512K and 512KE. These Macs all retain the classic single box design, i.e. the motherboard, drive and monitor are housed in a single box, with a detached keyboard and mouse. Apple puts a handle on them and can therefore call them portable. Luggable is the more often used term by those who own one and carry it any distance.

The Plus and SE are completely different internally, although functionally they are very similar. Both run at 8 MHz clock speed, and until very recently came with an internal 800K disk drive (Apple has begun shipping the SE with the new FDHD 1.44 MB drive). The major differences are that the SE has two internal disk drives instead of one, a fan, an expansion slot, and the SE can be purchased with an internal hard drive (or one can be installed at a later date by connecting to the SCSI bus and internal

Table 1
Macintosh Comparison

Feature	**Plus**	**SE**	**SE/30**	**II**	**IIx**	**IIcx**
Processor	68000	68000	68030	68020	68030	68030
Clock Rate	8 MHz	8 MHz	16 MHz	16 MHz	16 MHz	16 MHz
Std. RAM	1 MB	1 MB	1 MB,	1 MB	1 MB	1 MB
Max. RAM	4 MB	4 MB	16 MB	8 MB	16 MB	16 MB
ROM	128 K	256 K	256 K	256 K	256 K	256 K
PMMU	n/a	n/a	Standard	Optional	Standard	Standard
Math Co-processor	n/a	Optional	68882	68881	68882	68882
Internal Floppy	800 K	1.44 MB*	1.44 MB	800 K	1.44 MB	1.44 MB
Internal Hard Drive	n/a	20 MB	40 MB	40 MB	40 MB	40 MB
			80 MB	80/160 MB	80/160 MB	80 MB
Sound	mono	mono	stereo	stereo	stereo	stereo
Video	b&w	b&w	colour#	colour#	colour#	colour#
Expansion Slots	n/a	1 SE slot	1 Direct	6 NuBus	6 NuBus	3 NuBus
Canadian List Prices						
Floppy/1 MB RAM	$2625	$4187	$6675	$7425	$8062	$7144
20 MB HD/1MB RAM	n/a	$5058	n/a	n/a	n/a	n/a
40 MB HD/1MB RAM	n/a	$5937*	$7425	$9395	$9133	$8215
80 MB HD/4MB RAM	n/a	n/a	$9995	n/a	$11995	$10816
160 MB HD	n/a	n/a	n/a	n/a	$13111	n/a
Minimum System**	$2625	$4187	$6675	$8573	$9210	$8292

** - Apple is now shipping the SE with the FDHD (1.44 Mb) instead of the 800K disk drive. The SE with the 40MB internal hard drive comes with 2MB of RAM.*

 # - systems require the separate purchase of a keyboard, monitor and video card. Prices vary with monitor size, colour or gray scale capability, and the memory of the video card.

***-a minimum system is considered to include a b&w monitor, 1 bit video card (where needed), and the standard Apple keyboard.*

power supply). To accommodate the hard drive, the SE has a 'beefier' power supply than the Plus. Perhaps most importantly, it can be upgraded to the SE/30 (price and availability will not be known until October: Sit down before you read how much it will cost). In terms of performance, the SE is often described as 'snappier' than the Plus, but not measurably faster. This is due to the fact that the SE was designed from the motherboard up, and therefore benefits from improvements in the Plus design.

The SE's expansion slot can be used to add an internal modem, large screen external monitors or a co-processor board, either an accelerator or for IBM emulation. The advantage in owning an SE is that it is much more flexible than the Plus, as it can be configured for specific needs by adding features.

Given the differences, and the newer technology of the SE, why would anyone consider buying a Mac Plus? Price. The Plus is functionally the same as the SE, and can be purchased for $1995 at most establishments. It has been advertised as low as $1790 in recent months. This compares with a starting price of around $3697 for the SE. For the price of an SE, one can purchase two Plus's. For the price-conscious buyer, the Plus is the best buy, unless future upgradability is important.

Older Macs

The Mac 128K and 512K models are no longer in production. They differ from the Plus in having a smaller RAM memory, smaller disk drive capacity (400K single sided disks only) and smaller ROM (64K vs. 128K). Just before the Mac Plus became available, Apple began shipping an upgraded version of the Fat Mac called the 512Ke (e for enhanced). This version contains the 128K ROM's and double density (800K) disk drive that were to be included in the Mac Plus.

The older models of the Macintosh can often be purchased very inexpensively, both through computer clearance sales and privately. The old adage caveat emptor applies, however. Upgrading older Macs to the Mac Plus was made possible by Apple supplied ROM, disk drive, motherboard and keyboard upgrades, but at very high cost: $1373 to upgrade a 128K Mac to a Plus, while the 512K Mac upgrade runs $1268. These prices do not include upgrading the keyboard (the Plus has a number pad on the keyboard, which the others lack). Considering the street price of a new Mac Plus, it is usually more cost efficient to simply buy a new Plus and start a museum with the older models. The exception to this rule is the 512Ke, which already contains the enhanced ROMs and 800K disk drive of the Plus. Third party kits, such as the MacSnap kits from Dove, can be purchased which upgrade the RAM memory and add a SCSI port. They retail for $187 - $499 U.S. by mail order. The price range reflects different configurations and available options.

The family of Macs based on newer microprocessors are designed to appeal to persons with a need for either colour display, faster processing speed or a need to customize their system through the addition of expansion cards. They also appeal to those with very large bankrolls: They are prohibitively expensive for the average wage earner. All feature the new FDHD 1.44 MB floppy disk drive, are expandable to 8 MB of RAM on the motherboard and run at 16 MHz clock speed (twice that of the 68000 family). All are desk models, and require the separate purchase of a monitor and a video interface board, which adds well over a thousand dollars to the price of the system (or several thousand for colour systems). The original expandable Mac, the Macintosh II, is based on the 68020 microprocessor. The II has been superseded by the IIx and IIcx, which use the 68030 microprocessor. The IIx and IIcx are very similar, as their names imply. The chief difference is that the IIcx is smaller, and contains only three NuBus slots, where the IIx has six.

The SE/30

In the spring of 1989 Apple announced the SE/30, which puts the speed, power and colour display capability of the II, IIx and IIcx into the familiar 'portable' Macintosh case. The built-in display of the SE/30 is the same black-and-white display that the SE has: Colour display requires the purchase of a separate monitor and internal video board. The SE/30 is identical in size and appearance to the SE, but it is designed around the 68030 microprocessor, can have up to 8 Mb of RAM on the motherboard, and can support colour Quickdraw through a video card installed in the expansion slot. It is important to note that the expansion slot of the SE/30 is unique. It will not accept either boards from the SE or standard NuBus cards.

The 68030 microprocessor contains an integrated Paged Memory Management Unit (PMMU), which is an optional chip on the II. This feature is required to utilize the virtual memory capabilities that Apple has announced as part of System 7.0. Virtual memory refers to the computer's ability to use part of the hard disk's storage space as a pseudo RAM memory, in effect providing an enormous working space at very low relative cost. As a result, Apple seems to be about to cease production on the II in favour of the IIx and IIcx. This has led to some significant discounting in the price of the II (as much as 25 to 30%).

The other requirement for using System 7.0 will be at least two megabytes of RAM. Since all Macs have a mere single megabyte in their basic configurations at present, they will be unable to make use of System 7.0 without a memory upgrade. Apple has announced that, with the release of System 7.0, all new Macs will have the required two megabytes of core memory. This will likely include an increase in the base prices shown in the table as well.

On the Horizon

Apple has already announced an intention to fill the low-end market in 1990 with a below $1000 (US) Mac. Will it be the Mac Plus with a new low price? Will it have a 68030 and be able to run System 7.0? Will owners of the 68000 family be able to upgrade to 2 Mb of RAM and the new processor without selling their families into slavery? Apple has also been showing around a portable version of the Mac SE (truly portable, with a battery pack), and will make it available before long. Beyond all of these things may be new Macs based on even more powerful microprocessors. Motorola has developed a 68040 chip, and clock rates have moved towards the 50 MHz level.

The only thing we can be sure of is that the range of choices of Macintosh computers is likely to get even more complicated, and more exciting, in the future.

The price information contained in the table was constructed with the assistance of George Rix of MicroAge, Owen Sound. Upgrade information and prices were obtained through Apple Canada.

Apple's Imagewriter LQ Letter Quality Printer

by Kenneth Cohen

I have been shopping for a letter-quality printer for my Macintosh for some time. The price of laser printers deterred me. Lower priced laser printers, which do not use Postscript fonts and which connect to the Macintosh SCSI port, suffer from lack of built-in memory, slow printing speeds, limited fonts, and rather expensive maintenance requirements which made them seem like a costly way to obtain letter quality output. High quality, Postscript-based laser printers were beyond my budget.

I had looked at Apple's 27-pin, dot matrix, Imagewriter LQ printer previously but did not purchase one. It had features which were important to me: letter quality output sufficient for use in my law practice; a wide carriage capable of handling paper widths up to about 14 inches; a cut sheet feeder with optional extra bins, including an envelope bin; and a much lower price than even the lowest priced laser printers.

But the LQ had serious drawbacks. According to experienced users, it had intermittent problems printing near the top and bottom of a page. And it was quite noisy.

Apple was aware of the problems and recently took steps to correct them. (I understand that Apple has a "rework" program available for older LQ's.)

Installation is straightforward but requires a bit of assembly. Assembly becomes more complicated if you purchase the LQ's optional cut sheet feeder. In addition to the manual, Apple has provided an excellent Hypercard stack with the printer which provides a detailed, graphic installation guide. If you're not a do-it-yourselfer, you might ask your dealer to assemble the printer for you.

The output of the printer in its best printing mode is clearly "letter quality". I cannot distinguish the output from that of a daisywheel printer or a high quality electric typewriter (the accepted standards in non-laser, letter quality output). If I examine the LQ's output very minutely, I can distinguish the dots which form each character. But an ordinary reader who receives a letter printed by an LQ will never notice this and will perceive the quality of the print to be excellent.

The LQ's speed in "best mode" is faster than an Imagewriter II's, but I have not been able to test the two directly and cannot be any more precise. Printing speed is not as fast as the better laser printers, but appears to be only marginally slower than some non-Postscript laser printers.

If the LQ has any real shortcoming, it lies in a shortage of available fonts. The Imagewriter LQ, like the Imagewriter II, is a dot matrix printer and uses what are called "bit-mapped fonts".

Apple has a "rework" program available for older LQ's.

In order for these printers to print their best, they require "font images" which are a multiple of the size of the corresponding font that appears on the Macintosh screen. In the case of the Imagewriter II, the multiple is two. For example, if your document uses the 12-point Courier font on the Mac screen, your computer will look for a 24-point Courier font in your System file when sending best quality print to the Imagewriter II.

In the case of the Imagewriter LQ, the multiple is three. Thus, to print in "best quality" a document which uses 12-point Courier on the screen, the Imagewriter LQ will require a 36-point Courier font from the System file.

There are many available bit-mapped fonts available in "double size" (most commonly 18, 20, 24 and 28 point sizes) for the Imagewriter II, but relatively few of these are available in "triple size" (27, 30, 36 and 42 point sizes) for the LQ. Apple supplies triple-sized versions of the Courier, Times, Helvetica, and Symbol fonts with the LQ. Courier and Times are satisfactory for business correspondence (although Times is difficult to read on the screen). Helvetica is a popular "sans serif" font. Symbol looks like a foreign alphabet. There are a few other triple sized fonts available for the LQ but not many, so if you want to be able to print in true letter quality with a large variety of fonts, the LQ is not your printer.

Some Macintosh software will not take advantage of the LQ's ability to access multiple bins. Most businesses have several different kinds of paper which they use for printing (for example, letterhead, letter-sized white, legal-sized white). Using the optional LQ bins, you can have up to three different kinds of cut sheet paper available in your printer at all times, along with envelopes. But some software products, such as Microsoft Word 4.0, refuse to recognize the existence of more than one bin. If multiple bins are important to you (they are to me because they save time), then a software product's ability to access these will become a significant selling point.

I had previously experienced difficulties with the Imagewriter II's cut sheet feeder. Sheets of paper often stuck together and jammed the printer. Happily, the LQ's cut sheet feeder appears markedly superior to the II's in this regard: I have had absolutely no problems with it. Follow Apple's recommendation to use the LQ's cut sheet feeder with 16 to 24 pound paper and try to avoid glossy photocopy paper.

Because the LQ, like most other dot matrix printers, uses the Macintosh's CPU and memory while printing, you normally cannot use your computer while the LQ is working. If your time is important to you, you can overcome this problem by purchasing a popular print utility called "SuperSpool" published by SuperMac Software, which allows you to use your computer while your LQ (or Imagewriter II) is working.

My hat is off to Apple for having fixed the problems with the Imagewriter LQ. The LQ should now be an ideal, relatively low cost solution to the problem of high quality Macintosh printing for many small businesses.

The ImageWriter LQ lists at $2072 in Canada.

The Human Interface

You have probably heard arguments between those who like using the mouse to issue commands, and those who prefer to use the keyboard. The keyboardists tend to sneer at mousers, and like to style themselves as "power users" because they can remember a few keystrokes. Here is a quote from that article which reveals the true facts. — Jim Ferr.

We've done a cool $50 million of R&D on the Apple Human Interface. We've discovered, among other things, two pertinent facts:

• Test subjects consistently report that keyboarding is faster than mousing.

• The stopwatch, however, consistently proves that mousing is faster than keyboarding.

This contradiction between user experience and reality apparently forms the basis for the belief that the keyboard is faster.

People new to the mouse find the process of grabbing it every time they want to do anything other than type to be incredibly time-wasting. And therein lies the very advantage of the mouse: It is boring to find it because the two-second search does not require high-level cognitive engagement.

User Amnesia. It takes two seconds to decide which special-function key to press. Deciding among abstract symbols is a high-level cognitive function. Not only is this decision not boring, but the user actually experiences amnesia! The time-slice spent making the decision simply ceases to exist because the user is absorbed in the task and loses track of time. In other words, time flies when you're having fun.

The keyboard users in this case feel as though they have gained two seconds over the mouse users, but the opposite is really the case. Because while the keyboard users have been engaged in a process so fascinating that they have experienced amnesia, the mouse users have been so disengaged that they have been able to continue thinking about the task they are trying to accomplish. They have not had to set their task aside to think about or remember abstract symbols.

Hence, users achieve a significant productivity increase with the mouse in spite of their subjective experience.

Not that any of the above True Facts will stop the religious wars. And, in fact, I find myself on the opposite side in at least one instance, namely editing. By using Command-X, -C, and -V, users can select with one hand and act with the other. There are studies that show that two-handed input results in productivity gains.

(Quoted from Apple Direct/August 1989. The author of the quoted article is Bruce "Tog" Tognazzi, Apple employee number 66, an Evangelist whose job it is to keep the human-interface faith. Link him (AppleLink address: TOG) or write to him at: Apple Computer, Inc., 20525 Mariani Ave., Mail Stop 27EV, Cupertino, CA 95014.)

New Members

JONATHAN FRANKEL: Toronto, Ont. Has a IIe.

DOUGLAS REID: Toronto, Ont. Has a Mac.

DOUGLAS W. SINGER: Barrie, Ont. Has a IIe and a Mac II.

FARID I. AGHABI: Willowdale, Ont. Has a Mac II.

MICHAEL KENNEDY: Mississauga, Ont. Has a Mac SE/30.

NANCY PATERSON: Etobicoke, Ont. Has a IIe.

JAMES BELL (GT Omnicom Inc): Toronto, Ont. Uses a Mac.

DENIS LEFEBRE (BCH Information Systems): Toronto, Ont. Uses a Mac.

CAROLYN GILLIS: West Hill, Ont. Has a Mac.

STEVE DUDAR: Winnipeg, Man. Has a Mac SE and a IIGS.

HAROLD WALDOCK: Toronto, Ont. Has an Apple II (?).

MICHAEL KENT: Burlington, Ont. Has a Mac SE.

JIM GASH: Mississauga, Ont. Has an Apple II (?).

MARG RICE (Kwik Copy Printing): Aurora, Ont. Has a Mac II.

GERARD LACRIOX: Toronto, Ont. Has a Mac.

DOUG DENBY: Unionville, Ont. Has a IIe and a Lisa.

BENOIT ROBERT: Hamilton, Ont. Has a II Plus and an IBM clone.

ERICA RAO: Don Mills, Ont. Has a Mac 512.

ALEX BOSIKA: Toronto, Ont. Has an Apple IIe.

MICHAEL E. HADDON: Oakville, Ont. Has a IIc.

JOHN JONES: Etobicoke, Ont. Has an IIe.

ANDY ADRONIADIS: Unionville, Ont. No model indicated.

PERRY QUAN: Toronto, Ont. Apple IIGS.

Ms. HEATHER BRAZIER: Toronto, Ont. Apple IIGS

CORI BURCHELL (The Shooters Film Co): Toronto. Mac SE's.

BERND D. KUHNERT: Mississauga, Ont. Has a IIGS.

VELTA OZOLS: Islington, Ont. Has a IIGS.

SANDY GREWAL: Scarborough, Ont. Has an Apple IIc.

LOUIS H. BRUNELLE: Toronto, Ont. Has a IIGS.

JACKIE COUCH: Willowdale, Ont. Has a IIGS.

SEAN HABER: Toronto, Ont. Uses a Mac Plus.

DOUG & RAY MORRIS: Downsview, Ont. Has a IIGS.

ANDY STROTE (Redline Design): Toronto, Ont. No computer specified.

ZACHARIAH CAMERON: Toronto, Ont. Apple II (?).

DAVID SMITH: Oakville, Ont. Mac SE/30

Thank you all for becoming members. We sincerely hope that you will all be with us for many years to come.

— Sid Stulberg

Disk Library Update

Apple II
New User Tips...
Product Review...
Feature Article...
Disk Library Update...

ProDOS Disks

ProDOS 76 Ram Disk Utilities

This package includes a fast copy program to automatically load your ramdisk when you boot up and the reverse program to back up new or changed files. It includes a program selector to let you jump instantly between applications on your ramdisk. This program selector is in the form of a menu that is also a 'shell' program in that it lets you perform many useful functions by the use of open-apple keys. The menu supports the mouse as well as the keyboard. Some of the functions are:

• Catalog any disk or directory to the screen or printer.

• View or print text files on any disk or directory

• View hi-res or double hi-res pictures on any (well you know)

• Check online volumes.

• Set the time if you don't have a clock.

• Set the prefix to any directory via a menu.

• A built in note pad.

• Call alternate program selectors.

This 'program selector / shell / menu' gives you the option of installing it's own ProDOS quit code so you return to it when you quit any application program or type 'BYE' from basic.

ProDOS-77 Apple Conference Terminal (A.C.T.)

A.C.T. was initially designed to work

with Main Frame Services, like GEnie for the purpose of simplifying conferencing applications. However as time flies, programs either evolve or dissolve, which is no different with A.C.T. Today, A.C.T. in order to better serve the educational market, as well as general user applications, has been largely rewritten to accommodate the various needs of the public, making A.C.T. not only viable for Main Frame Services, but also for general use with local BBSes.

ProDOS-78 Disk Saver

Disk Saver is a shareware product designed to recover the main directory of a floppy disk. In order to run Disk Saver you will need either a IIc, IIgs, or an enhanced IIe with at least 128k.

ProDOS-79 Apple II Technotes

(Disk 1 of 3)

The disk contains up to date, Apple II Technical Notes from Apple Canada. This disk contains the following notes: IIe, ImageWriter, Memory Expansion, AppleTalk, IIc, and ProDOS 8.

ProDOS-80 Apple II Technotes

(Disk 2 of 3)

The disk contains up to date, Apple II Technical Notes from Apple Canada. This disk contains the following notes: Pascal, GS/OS, Mouse, and Filetype.

ProDOS-81 Apple II Technotes

(Disk 3 of 3)

The disk contains up to date, Apple II Technical Notes from Apple Canada. This disk contains the following notes: Unidisk, Smartport, and Miscellaneous.

Note: Apple II Technotes Disks are all contained on one 3.5" disk (ProDOS-79)

ProDOS-82 ECP-8 Version 5.00

(3.5" only)

The Extended Command Processor 8 (ECP8) is an operating system shell and program selector for use with Apple Computer Inc.'s ProDOS® Professional Disk Operating System. This program is compatible with the Apple IIgs, Apple IIe, Enhanced Apple IIe, Apple IIc, Apple II Plus, and other computers capable of running ProDOS 8. ECP8 is both an operating system shell and a program selector.

You may think of ECP8 as a bridge between you the user, and the ProDOS operating system. ECP8 also acts as a means of switching between application programs that run under ProDOS.

ProDOS-83 Columnist Version 2.01

(replaces ProDOS-69)

Columnist is a text file post-processor which takes any TXT (ASCII text) or AWP (Appleworks Word Processor) file and converts it into a new file in which the text is formatted in two or three columns on each page. This converted file can be then loaded back into your word processor for additional editing and printing, or can be printed by Columnist. Before converting a file, you adjust various format settings to control the page layout of your document. These format settings include such things as: Number of lines per page, width of left margin, width of each column, amount of space between the columns, number of columns, and whether the columns will be full justified. You can add multi-line page headers and/or footers to the formatted file, and can include printer control-characters. These and other features of Columnist will be explained in detail below.

ProDOS-84 More ProDOS Utilities

This disk contains three useful ProDOS Utilities. I recommend this disk to anyone who uses ProDOS. LIST is a $15 shareware machine language program for ProDOS 8 which is designed to allow viewing the contents of any ProDOS file. I find it particularly useful for examining files which are too big to fit into any word processor. Although useful to programmers and hackers, my beta-testers and I feel that non-programmers can benefit from it too. I hope to improve this program's user-interface to make future versions even more "friendly" for computer novices and non-power-users. LIST is designed to handle file sizes up to the full 16 Megabyte limit of ProDOS 8, and provides several different display modes, allows scrolling up and down through a file by line or by page, has options for searching, and can print all or parts of a file to printer or disk. LIST has a configuration screen with save-to-disk capability; LIST will automatically load this file (if it exists) at startup. There is onscreen disk/file selection for choosing which file you wish to view, or you may explicitly type in the pathname. I have many ideas for expanding and improving LIST, some of which will be detailed later.

SMARTBOOT allows an Apple II family computer to boot ProDOS 8 or GS/OS on a disk device other than the ordinary default one. This is helpful when it is inconvenient or impossible to switch the position of disk controller cards to change the boot disk drive. In addition, SMARTBOOT will boot to ANY device on a Smartport chain (not just the first one).

WINDOWS is a very handy Utility & Desktop program, which performs the following functions:(requires an enhanced IIe, IIc, or IIgs.)

- Move thru and view ProDos directories with ease.
- Launch ProDos BASIC, SYS, and S16 programs.
- Easily view or print Text or AppleWorks Word Processor files(DOGPAW).
- Show various types of Picture files.
- Copy files.
- Create Sub-directories.
- Rename files.
- Lock or Unlock files.
- Delete files.
- Set the ProDos date.
- Display complete file and disk info.
- Load Applesoft or Bload 'BIN' files.
- Quit to ProDos.
- Enter Basic.

ProDOS-85 Purple Forth

This disk lets you explore the Forth programming language. It is a simple version of Forth and the source code for the program is provided.

ProDOS-86 Warp Six BBS

(version 3.03; replaces ProDOS 75)

According to the author, Jim Ferr, this is the last "freeware" version of his program. The next version is to incorporate Xmodem, and will likely be a commercial offering. Version 3.03 includes everything you'd expect in a BBS except Xmodem, and supports the II Plus, IIe, IIc, and IIgs. Minimum requirements are 64K, ProDOS and a Super Serial Card, IIc, or IIgs port, as well as a Hayes compatible external modem. The DataLink 2400 is also supported. Documentaton is included, on disk.

Apple IIgs Disks

Note: I have just found a problem with one of the files on GS Disk #18. The file CAMELOT.18 does not contain the Camelot font. This file has been removed from the master, so that it will not affect people

who have not yet purchased the disk. I recommend that anyone with this disk, delete the above file, if you do not you may run into some problems. -- Blair Angus.

GS-66 Crystal Quest Demo Disk

This is the demo version of Crystal Quest, which is an arcade-style game. Very good graphics.

GS-67 Sounds Disk #5

There are the following sounds on this disk: Excuse Me, Food Fight, How Rude, I am Captain Kirk, I am Sorry, One Giant Leap, Rooster, Sheep, and Symphony.

GS Font Disk #9

This disk contains 29 complete font families. The following font families are included on this disk: Agua Mundo, Albuquerque, Alderney, Alison, Andover, Anglican, Anti Particles, APL, Aragon, Arlington, Art Nouveau, ASCII, ASCII City, ASKEY, Astaire, Astrobio, Astrology, Athena, Athinai, Atlantic City, Austin Econ, Babylon, Bangkok, Baraboo, Barrington, Bartlett, Batavia, Bauhaus, Bellevue, and Beneventan.

GS-69 Fonts Disk #10

This disk contains 38 complete font families. The following font families are included on this disk: Beverly Hills, Beverly Hills Large, Bill's Dingbats, Bodini, Bodini Ultra, Bombay, Book, Bookman, Borderline, Boston, Boston II, Boxie, Brennero, Bullets & Boxes, Cairo, Caldwell, Calendar, Calisto, Candy, Canterbury, Canton, Carmel, Carvel, Cavanaugh, Celtic, Chancery, Chess, Chicago, Chiridge, Chisym, Chubby, Chugach, Ciao, Circuits, Cirth, Clairvaux, Clean, and Codex.

GS-70 Fonts Disk #11

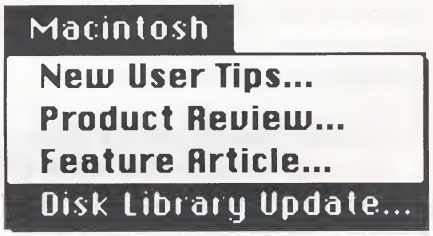
This disk contains 43 complete font families. The following font families are include on this disk: Cologne, Columbia, Colville, Copenhagen, Cosmo Black LC, Cosmo Black UC, Cream, Crete, Cross, Robert Crumb LC, Robert Crumb UC, Cuneifont, Cupertino, Cupertino 2, Cyrillic Light, Czech, Czech Plus, Dali, Dallas, Dancing Men, Deerfield, Des Moines, Des Plaines, Dethek, Deutschland, Diacritics, Digital, Digits, Doriza, Dots, Drawing, Dream, Dulles, Dundee, Durango, Durham, E Orange, Easystreet, Edgebrook, El Camino, Ellesmere, Eon, and Epsilon.

GS-71 Fonts Disk #12

This disk contains 35 complete font families. The following font families are included on this disk: Eta Medium, Evanston, Fantaste, Firenze, Fletcher, Flintstone, Flow II, Foot, Fractions, Fractions XR, Futura, Gilbert Shelton, Galena, Gallia, Gangsters, Gavarine, G.B. Shaw, Gothic Daisywheel, General Electric, Geneva, German New York, Gothic, Greek Anti Particles, Glencoe, Giants, Glencoe Light, Gloss, Gorky, Grafik, Gratitude, Greece, Green Bay, Guitar 1, Guitar 2, and IBM.

GS-72 Assorted Super-Hires Pictures Disk #1

This disk contains many pictures from Great West Shootout, plus many pictures from your favourite programs.



Mac 251: DA's & Utilities

Rob Whitelock, a LOGIC member up in Wiarton, has been spending a lot of time (and money!) on GEnie lately, and has downloaded a large collection of interesting material, which makes up this and the following two disks. There are too many goodies on these disks to give detailed descriptions, so I will simply list what is to be found here:

Desk Accessories: MiniWRITER 1.42, DAfx, McSink 6.5, Scribbler 3.0, Clarity, OnlineLogger, VariTyper Fontmaster, KiwiEnvelopes! 1.02, Calendar 1.4.

Utilities: SoftDisk, MenuEdit, BindIcons, Formatter 1.22, Fix Desktop, ReadWrite, FEVER, MultiLaunch.

NeXT Stuff: WindChooser 1.12, StartUp Screen, NeXT Folders

Mac 252: CDEV's & INIT's

Another collection of goodies from Rob Whitelock: cdev's: Talking Moose 2.0, Boomerang 2.0B7, Dawn 2.0.1, Staircase 1.0.2, SoundMaster 1.2, hierDA'78, ChooseCDEV, init/cdev, Windows, HigherMenus 2.0, Logger 2.0. INIT's: Cmdr. Dialog 1.0.1, Chime Sounds Three, FetchIt 1.1, QuickSpool, AutoBlack 1.5, Chime 3.1, HelloInit, Façade 1.0, IconWrap 1.2, P Key. FKEY's: Utility FKEYs, SetVolume, ICON FKEY. ResEdit Stuff: New SE Icons, ICONs, dsatTMPL, DonCursor, Earth 1.0, JerryCan, System 6.0 ICONs, Hourglass.

Mac 253: Games & HappiWare

The games on this disk were also contributed by Rob Whitelock: Dot-to-Dot Construction Set, Donkey Doo 2, Shuffepuck, MacBandit, ZeroGravity, Euchre 2.6, and HyperLotto 6/49. During the summer, LOGIC had a visit from John Rotenstein of Sydney, Australia. John is the inventor of HappiWare, a system whereby, if you like his software, you send him a postcard with a picture of your home town. He left us the following collection of HappiWare, mostly clever and useful utilities: Frame•It, Temperament, Behind Dark Castle, init cdev 2, Logout 1.1, Daily Organiser, cdev Shrinker, Menu Magic, BootCheck, QuickStart 2, and Nothing. All are described in detail in a HyperCard stack.

Macintosh Technical Notes

The previous series of 9 Tech Notes disks has been replaced with a new series, which are all 800k disks:

TN 1: Tech Notes 0 - 70

TN 2: Tech Notes 71 - 130

TN 3: Tech Notes 131 - 195

TN 4: Tech Notes 196 - 221

Also includes interim chapters for Inside Macintosh dealing with Script Manager, Sound Manager, and translation between character sets, and source code for Script Manager interfaces.

TN 5: Tech Notes 222 - 227

Also includes revisions of Tech Notes 129, 171, and 176, further documentation for Script Manager 2.0, and indices of earlier Tech Notes.

TN 6: Tech Notes 228 - 241

Also includes ResEdit 1.2, MacsBug 6.1 and SysErrTableDA 2.2.

LOGIC Disk Order Form

Please cut out or photocopy this form.

Qty.	Disk No.	Disk Name	Size	Price	Totals
1	ProDOS -86	(Example)	5.25"	6.48	6.48
1	MAC-251	(Example)	3.5"	6.48	6.48
		Start your order below:			
				SUBTOTAL:	
				Ontario residents add 8 per cent sales tax:	
				Disk Order TOTAL:	

FREE SHIPPING! (BY FIRST CLASS MAIL)

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Disks are **$6.48** for LOGIC Members (or if you are enclosing your membership fee) and **$11.11** for non-members.

PLEASE NOTE:

Non-Members cannot purchase disks that contain Apple system software, including Macintosh System/Finder, ProDOS, BASIC.SYSTEM and GS/OS.

Enter the quantity, disk number (eg. ProDOS-86), the price ($6.48 or $11.11) and the extension. Subtotal and add sales tax if you are an Ontario resident, then total your disk order.

Charges are for copying and handling only. You are encouraged to forward shareware fees where applicable.

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or

☐ **CHEQUE (enclosed)** **Signature for VISA:** _____

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LOGIC is an Apple User Group for Apple II and Macintosh users. Membership in LOGIC includes Maple Orchard, our bi-monthly magazine, and 40 minutes per day access on the LOGIC Information System. In addition, membership entitles you to free admission to both Special Interest Group and regular monthly meetings (both Apple II and Macintosh) and a discount on LOGIC Public Domain Library diskettes. LOGIC is non-profit and is incorporated in the province of Ontario.

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Please use the rest of this space to make any comments, suggestions or criticisms: (don't pull any punches)

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Apple Developer University Training Schedule

September 1989 - March 1990

Macintosh Programming Fundamentals
September 11-15 ..... Denver, CO
September 18-22 ..... Cupertino
September 25-29 ..... Cupertino (2 classes)
October 9-13 ..... Cupertino
October 16-20 ..... Purchase, NY
October 23-27 ..... Cupertino
November 27-December 1 ..... Cupertino
December 4-8 ..... Cupertino
December 11-15 ..... Cupertino
December 18-22 ..... Denver & Cupertino
January 15-19 ..... Purchase, NY
January 22-26 ..... Cupertino
January 29-February 2 ..... Cupertino
February 5-9 ..... Cupertino
February 12-16 ..... Cupertino
February 19-23 ..... Cupertino
March 5-9 ..... Cupertino
March 12-16 ..... Cupertino
March 19-23 ..... Denver, CO
March 26-30 ..... Cupertino

Advanced Macintosh Programming
September 6-8 ..... Cupertino
November 13-15 ..... Cupertino
December 6-8 ..... Cupertino
December 11-13 ..... Cupertino
January 10-12 ..... Cupertino
January 29-31 ..... Cupertino
March 12-14 ..... Cupertino

Macintosh Programmer's Workshop
October 30-31 ..... Cupertino
January 8-9 ..... Cupertino

Technical Introduction to AppleTalk
October 12-13 ..... Cupertino
October 30-31 ..... Cupertino
February 15-16 ..... Cupertino

MacApp & OOP (Pascal)
September 11-15 ..... Cupertino
October 9-13 ..... Cupertino
October 16-20 ..... Cupertino
November 6-10 ..... Newport Beach, CA
November 13-17 ..... Reston, VA
November 27-December 1 ..... Cupertino
January 15-19 ..... Boston
February 5-9 ..... Cupertino
February 19-23 ..... Cupertino
March 5-9 ..... Cupertino
March 26-30 ..... Cupertino

MacApp & OOP (C++)
October 23-27 ..... Cupertino
November 13-17 ..... Cupertino
December 4-8 ..... Cupertino
January 15-19 ..... Cupertino
February 5-9 ..... Cupertino
March 19-23 ..... Cupertino

C++ Programming
September 18-19 ..... Cupertino
October 18-20 ..... Cupertino
November 6-8 ..... Cupertino
November 27-29 ..... Cupertino
December 19-21 ..... Boston, MA
January 8-10 ..... Cupertino
January 29-31 ..... Cupertino
February 26-28 ..... Denver, CO
March 12-14 ..... Cupertino

OOP Design
November 9-10 ..... Cupertino
November 30-December 1 ..... Cupertino
January 11-12 ..... Cupertino
February 1-2 ..... Cupertino
March 1-2 ..... Denver, CO
March 15-16 ..... Cupertino

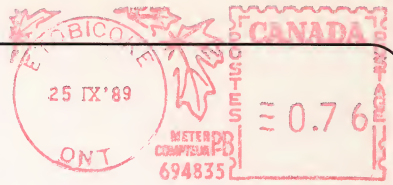
CL/1 Funamentals
November 6-8 ..... Cupertino
December 18-20 ..... Cupertino
January 22-24 ..... Cupertino
February 12-14 ..... Cupertino
March 19-21 ..... Cupertino

MacWorkStation
October 23-26 ..... Cupertino
November 6-9 ..... Purchase, NY
January 16-19 ..... Cupertino
March 13-16 ..... Purchase, NY

System 7.0 Update
January 15-17 ..... Cupertino
February 12-14 ..... Boston, MA
March 7-9 ..... Cupertino
March 28-30 ..... Cupertino

For more information or to register, call the Developer University at (408) 974-6215.

From: LOGIC
P.O. Box 696, Station B
Willowdale, Ontario
M2K 2P9



To:

9090 Xchg
Kiyoshi Masuda
Apples B.C. Computer Soc.
P.O Box 80569,
Burnaby B.C. V5H 3X9

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Attn. Postmaster: Address correction requested.

LOGIC Meetings

All meetings take place at North York Memorial Hall, Burgundy Room A (Level CL, below the library), 5110 Yonge Street, one block north of Sheppard and physically one block west of Yonge.

All meetings start at 7:00 pm with Disk Library sales (both Public Domain and Shareware). From 7:00 to 7:30 at each Apple II meeting, there is an open session on Apple II Fundamentals, where experts will be on hand to answer questions and solve problems. Announcements are made at 7:30 pm, and the main topic of each meeting begins afterward.

Tuesday October 3
Macintosh Meeting
Customizing your System and Applications with ResEdit

Tuesday October 17
Apple II Meeting
Programming the Apple II in BASIC and Assembly Language
(Other languages may be discussed depending on the audience.)

Tuesday November 7
Macintosh Meeting
Topic to be announced at the October 3 meeting
(You can also check the hotline or the BBS after that date.)

Tuesday November 21
Apple II Meeting
AppleWorks SIG Presentation
(on a variety of AppleWorks related topics.)

Tuesday December 5
Joint Macintosh/Apple II Christmas Meeting
Games and Entertainment
(including something of interest to children)

Note: topics are subject to change without notice.
Check the hotline (416-323-0828) or the LOGIC BBS for any changes.